ABSTRACT

EDUCATIONAL LEADERSHIP

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A STUDY OF THE VARIBLES AFFECTING THE ATTRITION OF NONTRADITIONAL STUDENTS IN GEORGIA PERIMETER COMMUNITY COLLEGE IN THE STATE OF GEORGIA

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This quantitative study examined the variables affecting the attrition rate of nontraditional students in Georgia Perimeter Community College. This study involved a population of 1,514 nontraditional students who enrolled at Georgia Perimeter Community College and withdrew prior to graduation. The respondents from the population of 1,514 consisted of 307 subjects. The sample of the population was analyzed during 1993-94, 1994-95 and 1995-96 fall semesters.

The ten independent variables identified were: (a) study habits, (b) academic advising, (c) absenteeism, (d) major certainty, (e) course availability, (f) student finances, (g) hours of employment, (h) outside encouragement, (i) family responsibilities, and (j) opportunity to transfer. Attrition rate was the one dependent variable, and the four moderator variables included age, marital status, gender and ethnicity. Surveys were used to gather data for this study and the Statistical Package for the Social Sciences

(SPSS) was used to analyze the data. The statistical procedures involved correlation and step-wise multiple regression.

There were seven significant findings. When the academic variables were submitted, one variable of the academic set was significant using the correlation. Students who withdrew from college expressed uncertainty regarding their choice of major. When the environmental variables were subject to correlation analysis, the analysis did not produce any significance in classifying students who would withdraw from school. When moderating variables were included, six hypotheses showed some significance.

A STUDY OF THE VARIABLES AFFECTING THE ATTRITION OF NONTRADITIONAL STUDENTS IN GEORGIA PERIMETER COMMUNITY COLLEGE IN THE STATE OF GEORGIA

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TABLE OF CONTENTS

Table of Contents Continued

Table of Contents Continued

Table of Contents Continued

LIST OF FIGURES

LIST OF TABLES

List of Tables Continued

List of Tables Continued

Tables Page

CHAPTER 1

Introduction

More than two decades ago, A.W. Astin (1975) claimed that the problem of students dropping out of college was a little like the weather in that it was something everybody talked about but no one did anything about. In 1996, however, Mohammadi explored retention and attrition in a two-year public community college because there was a need to improve the retention rate at community colleges. Current research also shows that several community colleges, Spoon River College in Illinois, Valencia Community College in Florida, Middlesex Community College in New Jersey and City Colleges in Chicago did retention studies in an effort to determine why students were leaving college (Mohammadi 1996). Clearly, times have changed. Today, colleges are trying to do something about attrition. All colleges, whether a two-year community college or a four-year institution, are concerned about why students are leaving school prior to graduation.

As institutions of higher education move into the final decade of the twentieth century, their increasingly diverse student population characterizes them. While the nation's most venerable institutions retain their timeless missions and continue to enroll large numbers of traditional college students, most colleges and universities are feeling the influence of new nontraditional students, having at least one or many of the characteristics that define them. Some of the characteristics that define the

nontraditional student are age, enrollment status, financial independence, employment status and family responsibilities (Davis 1996).

The nontraditional student is characterized as a student who is older than 24 years of age, is enrolled part-time, is totally responsible for tuition, is employed full-time while enrolled in school and has dependents. Dependents are defined as a wife, children, elderly parents, siblings or other members of the family for whom the student is financially responsible (Cross 1980). Another author further explains that the nontraditional student can be at least 20 years of age during the first year of college, 21 years or older in the second year, 22 years or older in the third year and 23 years or older in any year (Sweeney 1997). Nontraditional students can be from any part of the country; from rural or urban settings; rich or poor; Black, white, or Hispanic; not employed, working full- or part-time, or retired; male or female, with or without dependents; married, single, or divorced (Bean and Metzner 1985). The nontraditional student does not reside on campus, but commutes to class. Nontraditional students are distinguished by the lack of time they spend on campus interacting with faculty and students (Bean and Metzner 1985).

Stewart and Rue (1983) defined the nontraditional student as being 25 or older and being more likely to attend college part-time because of employment. Seidi and Santer (1990) supported Stewart and Rue's views that although some nontraditional students attended college full-time, more often they attended school part-time while still working.

In 1985 Garland suggested that traditional students had been defined as white, middle class, 18 to 24 years old and adequately prepared for college-level academic

work. No other findings, that this author reviewed, made a distinction between ethnicity when defining the traditional or nontraditional student. Garland believed that nontraditional students did not fall into this category. Garland believed that at most higher educational institutions, nontraditional students were married, had children and were over the age of 24. By 1990, research defined the traditional student as one who enrolled in college immediately after completion of high school, attended full-time, resided on campus, was of any ethnicity and participated in school activities, whereas the nontraditional student was primarily concerned about academics (Davis 1996).

For the purpose of this study, a nontraditional student is one who attends a community college full- or part-time, one who is nonresidential on campus, one who may be a man or woman, one who may work full- or part-time and one who may be of any race. This student is also over 20 years of age and attending a community college for the first time. Such students bring to the nation's campuses unique needs. The response institutions make to their needs may be the determining factor in these students' successes or failures.

Research reveals that student attrition for nontraditional students has received little attention. In contrast, there are an enormous number of studies in the area of traditional student attrition. Since the needs of traditional students are different from those of the nontraditional student, a careful distinction should be made between the two groups of students.

Purpose of the Study

A report on the First Year Retention Rates of Students at 15 community colleges in Georgia (Fall 1995 & 1996) indicated that from one year to the next, no community

college retained 73 percent of its students. Atlanta Metropolitan College showed the lowest retention rate of 48.8 percent while Bainbridge College showed a slightly higher percentage rate of 51.4 percent. DeKalb College showed a retention rate of 67 percent, near the mean of the spectrum (Quarterly Enrollment Report 1995-97). Other community colleges' retention rates are shown in Table 1.

According to the National Center for Education Statistics for 1997, nationally, 36.7 percent of the students who enrolled in a community college in 1989–90 attained a degree by 1994, while 48.6 percent dropped out. When comparing Georgia's retention rate for fall 1995 and fall 1996 with the national average, only one community college in Georgia falls below the national average.

According to White (1995), colleges with an open admission policy or minimal admission criteria experienced attrition rates ranging from 40 to 60 percent between the freshmen and sophomore year. Although recent research showed the reasons why nontraditional students left college, those reasons were not based on any conceptual framework and the student population was stated in general terms. Those studies, like most community college studies, were largely descriptive, focused on the general student population, and lacked a conceptual base.

This study, however, investigated the factors that affected the retention rate of nontraditional students at Georgia Perimeter Community College during the 1993-94, 1994-95, and the 1995-96 school terms using the conceptual model developed by Bean and Metzner (1985)(Figure 1). The attrition rates for those years, consecutively, were 58.45 percent, 59.37 percent and 58.1 percent. (Hale 1998). When the reasons that cause

Table 1

RETENTION RATES FOR COMMUNITY COLLEGES IN GEORGIA

Community College	Retention Rate (%)
Abraham Baldwin Agriculture College	63.8 %
Atlanta Metropolitan College	48.8%
Bainbridge College	51.4%
Coastal Georgia Community College	55.2%
Dalton College	62.1%
Darton College	66.2%
DeKalb College	67.3%
East Georgia College	72.5%
Floyd College	60.1%
Gainesville College	71.3%
Gordon College	60.4%
Macon State College	66.5%
Middle Georgia College	68.9%
South Georgia College	64.7%
Waycross College	67.9%

Source: University System of Georgia, Quarterly Enrollment Reports; Student Information Reporting System, Information Digest, Enrollment By Class, Board of Regents of the University System of Georgia, 1995-97, 23.

nontraditional students to leave college are determined, the college administrators can take administrative actions to reduce the attrition rate. The conceptual model presented indicates that attrition among nontraditional students is based primarily on four sets of variables. Students with poor academic performance are expected to drop out at higher rates than students who perform well. GPA is expected to be based primarily on past (high school) academic performance. The second major factor to affect the attrition of nontraditional students is the intent to leave, which is expected to be influenced primarily by the psychological outcomes but may also result from academic variables.

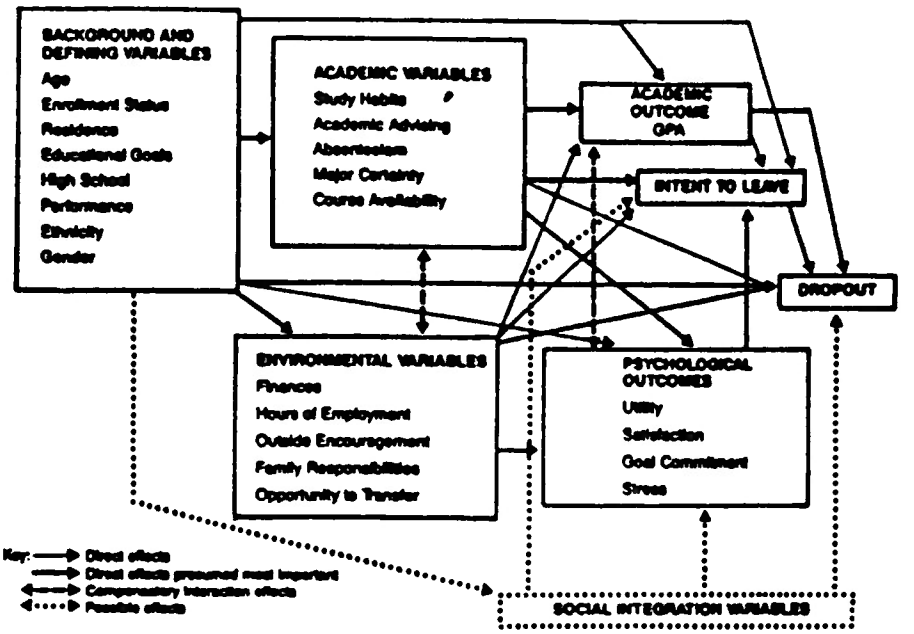

Figure 1. Bean and Metzner's conceptual model of nontraditional student attrition (1985). Reprinted from Morgareidge, M., The Importance of Selected Environmental and Academic Variables in the Persistence of High-Risk Nontraditional Community College Students.

The third group of variables expected to affect attrition among nontraditional students is the background and defining variables, primarily high school performance and educational goals. These affects may be mediated by other endogenous variables in the model. Finally, the environmental variables are expected to have substantial direct effects on dropout decisions (Bean & Metzner 1985).

Background of the Problem

Since the founding of Harvard in 1636, institutions of higher education have been confronted with the dilemma of students withdrawing from college voluntarily or because of influence and motivation from the administration. One of the first papers addressing the issue was entitled "The Early Withdrawal of Pupils from School: Its Causes and Its Remedies." The paper was presented to the annual convention of the National Education Association as early as 1872 (Schreiber 1968).

Today, the problems related to the college dropout have become a deficit to the university, a loss of educated manpower to society, and worst of all, a personal failure which forces the dropout to leave. Research showed that in 1971, about 34 percent of all community college students and 12 percent of all students enrolled in the first two years of four-year colleges attended part-time (Jennings 1972). Today, at a suburban community college in Georgia, over 60 percent of all the students attend part-time (Hale 1998). According to the Quarterly Enrollment Report: Student Information Reporting System, in 1996, Georgia State University had over 31 percent of its students enrolled part-time. For many students, full-time college enrollment is not easily realized. There

are a number of extraneous factors that help to explain this phenomenon. Some of these factors are personal, family obligations and financial.

Each college should be considered as a unique entity. The factors leading to students dropping out may well be unique to any given institution. In the state of Georgia, where this research was conducted, there is a concern regarding the low retention rates of nontraditional students at community colleges. This concern was echoed during interviews with a vice president and a president from two urban community colleges in Georgia.

As a veteran teacher at a post secondary school in Georgia, where nearly 90 percent of the student population consists of nontraditional students, the author has developed a special interest in the academic survival and support of this group of students. Nontraditional students face a significant number of problems that need to be addressed by educational institutions throughout the country and especially in Georgia.

Statement of the Problem

Numerous factors affect the retention rate of the nontraditional student in community colleges. In spite of the phenomenal growth in nontraditional enrollments, the likelihood of nontraditional students finishing a degree program is much less than for traditional students. The reasons why these students drop out are not well understood.

Also, since so many minority students are enrolled in community colleges today, another pressing issue facing higher education is that these students are not graduating. According to Kraemer (1996), 80 to 85 percent of Hispanic community college students

intend to transfer to a four-year college, but only between 5 and 20 percent actually transfer.

In 1996, enrollment growth in many Georgia community colleges slowed, compared with the previous year. According to the 1995-97 Information Digest, Georgia community colleges' total enrollment decreased from 1995. Although enrollment for fall 1996 increased slightly above 1995 at several community colleges in Georgia, long-term enrollment trends are unclear. At one metropolitan community college in Georgia in 1996, it was noted that 51 percent of the full-time, entering community college freshmen were not in school the second year (Quarterly Enrollment Report 1995-97).

The loss of students is costly to higher education. Coupled with rapidly rising institutional costs and decreases in federal support to higher education, the financial impact of students lost through attrition can be devastating and crippling to an institution's programs and services. The cost to the student is great, too, since a negative college experience can discourage him or her not to try again. In today's highly competitive society, the lack of a college education can be a serious impediment to an individual. Society as a whole loses, too, because it depends for its sustenance and advancement on an educated populace. The effectiveness of higher education can be improved if we can learn more about why a large proportion of students withdraw, what happens to them, and what can be done to reduce attrition.

Significance of the Study

Since the majority of students attending college today and in the future meet the nontraditional definition, it behooves higher education administration and faculty to

understand why students drop out of college and why they stay in college. The impact of student attrition is economically costly to higher education. As mentioned earlier in this study, when coupled with rapidly rising institutional costs and a decrease in federal and local support, lost student revenue presents the devastating potential for either crippling or eliminating an institution's programs and services. Also, the critical costs of attrition are borne by the individual student. Dejected, defeated and reluctant to reenter the educational fray, the individual enters a highly competitive society and, in many instances, is inappropriately prepared to function. Research indicated that past generations have used education as a means to advance in society. Studies indicated that over a lifetime, high school graduates earn more money than non-high-school graduates and that holders of associate degrees earn more money than those with high school diplomas, which is why it is critical that we retain our nontraditional student until graduation.

Additionally, this study addressed several gaps in attrition research. First, despite the vast amount of research on attrition and persistence of college students, there is notable lack of research that is theory based. Theory-based research, in fact, is almost totally absent in community college studies. Theoretical models developed to explain the attrition process have placed emphasis on the process of socialization characterized by involvement with peers and faculty within the institution as the factor most likely to affect persistence. However, the nontraditional student's salient characteristics do not allow for the intense involvement with the institution.

Second, there is a paucity of studies on part-time and older or adult students. This study, therefore, represented one of the few community college attrition studies to

employ a conceptual framework and to focus on the nontraditional student. In addition, Bean and Metzner (1985) suggested there was need for further research on the model because little empirical evidence for several variables found in the model (e.g., utility, intent to leave, stress) was available. They felt it important to evaluate the effects of those variables on attrition. Understanding what factors contribute to the dropping out of adult students and how they interact is crucial.

Research Questions

For the purpose of this study, the research questions addressed included the following:

1. Is there a relationship between the study habits and attrition of the nontraditional student?
2. Is there a relationship between the academic advising and attrition of the nontraditional student?
3. Is there a relationship between the absenteeism and attrition of the nontraditional student?
4. Is there a relationship between the major certainty and attrition of the nontraditional student?
5. Is there a relationship between the course availability and attrition of the nontraditional student?
6. Is there a relationship between the finances and attrition of the nontraditional student?

7. Is there a relationship between the hours of employment and attrition of the nontraditional student?
8. Is there a relationship between the outside encouragement and attrition of the nontraditional student?
9. Is there a relationship between the family responsibilities and attrition of the nontraditional student?
10. Is there a relationship between the opportunity to transfer to another college and attrition of the nontraditional student?
11. Is there a relationship between study habits and attrition of the nontraditional student in terms of age, ethnicity, marital status and gender?
12. Is there a relationship between academic advising and attrition of the nontraditional student in terms of age, ethnicity, marital status and gender?
13. Is there a relationship between absenteeism and attrition of the nontraditional student in terms of age, ethnicity, marital status and gender?
14. Is there a relationship between the major certainty and attrition of nontraditional students in terms of age, ethnicity, marital status and gender?
15. Is there a relationship between the course availability and attrition of the nontraditional student in terms of age, ethnicity, marital status and gender?
16. Is there a relationship between the finances and attrition of the nontraditional student in terms of age, ethnicity, marital status and gender?

17. Is there a relationship between the hours of employment and attrition of the nontraditional student in terms of age, ethnicity, marital status and gender?

18. Is there a relationship between the outside encouragement and attrition of the nontraditional student in terms of age, ethnicity, marital status and gender?

19. Is there a relationship between the family responsibilities and attrition of the nontraditional student in terms of age, ethnicity, marital status and gender?

20. Is there a relationship between the opportunity to transfer to another college and attrition of the nontraditional student in terms of age, ethnicity, marital status and gender?

The measurement in this study of the relative strength of each of the environmental and academic sets of variables on persistence offered a way to determine their importance. The ranking of variables leading to persistence or dropout behaviors becomes important as solutions when attrition is considered.

Summary of Chapter 1

All colleges are experiencing an influx of nontraditional students, especially two-year institutions. However, in the community colleges, student attrition for the nontraditional student is perceived as a major problem. Nontraditional students are not completing their programs of study at the same rate as the traditional student. Little research has been done on the nontraditional student. The Bean and Metzner Conceptual

Student Attrition Model of Nontraditional Undergraduate Student (1985) were used in this study to determine what factors affect the retention rate of nontraditional students in two-year community colleges.

Chapter 2 contains a global view of the literature about student attrition for the traditional and nontraditional students. It also includes a review of the literature about the variables used in this research.

In conclusion, this research is about the factors that affect the retention rate of nontraditional students in DeKalb Perimeter Community College. The administration of the school system may use the findings of this study to develop a plan to reduce student attrition, to improve nontraditional student attrition and to improve instruction.

CHAPTER 2

Review of the Literature

The purpose of this chapter is to review literature related to the factors that affect the retention rate of nontraditional students in community colleges. This chapter includes four sections that are (1) introduction, (2) attrition of traditional students, (3) attrition of nontraditional students and (4) Bean and Metzner's Models.

Early studies of traditional college student attrition were numerous and primarily descriptive. For example, in the United States in 1971, of the 7.6 million undergraduates enrolled, 2.3 million were believed to drop out of higher education completely (Cooke 1995). According to Cooke in 1995, one explanation for this superabundance of research on undergraduate attrition is the sheer size of the problem due to the number of students involved. Cooke stated that more than 40 percent of all college entrants did not earn a degree. Such studies, while not based on theory, served the purpose of describing the phenomenon but did not offer reasons why or how variables related (Tinto 1975).

American Heritage College Dictionary (third edition) defines attrition as a gradual diminution in numbers or strength. It further defines it as a gradual reduction in membership or personnel, as through retirement or death. It is defined as a rubbing away or wearing down. Therefore, student attrition is the withdrawal of a student from college prior to completing a major. Defining the nature and scope of student attrition in general has been the goal of an extensive body of research over the last 40 years. In addition to

studies which focused on the rates of attrition (Haney 1990; Morgareidge 1988; Astin 1972, 1975b; Beal & Noel 1980; Cope & Hannah 1975; Iffert 1958; Lenning, Beal, & Sauer 1980; Summerskill 1962), a number of studies have examined the various reasons given by students for early withdrawal. During the 1950's and 1960's the major reasons cited were marriage (by females), the lack of motivation or interest and dissatisfaction with one's college (Iffert, 1958; Panos & Astin 1968). Reasons changed somewhat in the 1970's and 1980's and included uncertainty or indecision about career choice, dissatisfaction with personal achievement, financial problems, lack of interest in programs of study and unclear life plans (Brigman, Kuh, & Staget 1982). Studies focusing on community colleges, specifically, corroborate those findings (Roueche, Baker, & Roueche 1984), while introducing several additional reasons such as completed goals (Bennett 1977; Brunner, Packwood & Wilson 1978; Willett 1983); transfer to a four-year college (Blai, Peterson, & Viehweg 1972; Bucks County Community College 1973), and job-related requirements (Bakshis 1979; Brunner, Packwood, & Wilson 1978; Martin 1975).

Still other studies during the 1970's attempted to identify quite different factors that appeared to be linked with student attrition and persistence. In an extensive review of the literature, Lenning, Beal, and Sauer (1980) categorized such studies with regard to the extent that they focused on characteristics of students, characteristics of institutions, the match between characteristics of the school and student, or forces external to the institution. Among those factors most often studied were the following:

Academic factors – academic aptitude, high school grades, high school rank and college grades.

Demographic factors – age, sex, socioeconomic status (SES), ethnicity, size of high school or college and college major.

Aspiration and motivational factors-- level of degree aspirations, educational goals, transfer plans and vocational/occupational goals.

Financial factors -- financial aid, number of hours working and family income.

Community college studies that focused on the relationship of student characteristics to attrition and persistence generally supported the findings of studies conducted at the four-year colleges and universities. During the early 1990's, the reasons most cited for attrition were GPA, outside encouragement and opportunity to transfer (Haney 1990).

In 1986, the IDRA (Intercultural Development Research Association) Attrition Model was implemented. IDRA conducted the first comprehensive analysis of school dropouts in the state of Texas in 1986. That research effort was conducted by IDRA under contract with the Texas Department of Community Affairs. The study was conducted during the period of May 1986 through October 1986 and focused on the magnitude of the dropout problem, the economic impact of the school dropouts, and the nature and effectiveness of dropout prevention programs in Texas.

IDRA developed a technique for estimating the number of students lost from Texas public schools as a result of attrition. The formula for computing the longitudinal attrition rates consisted of taking grade level enrollment for a base year and comparing those figures to grade level enrollment in subsequent (or end) year. The assumption was that a decline in the number of students enrolled constituted the attrition rate for the school or district and that the attrition rate was closely related to the annual dropout rate.

IDAR's cohort longitudinal attrition analyses allowed for increases and decreases in a district's enrollment figures since district enrollment varied from school year to school year (Intercultural Development Research Association 1996).

Hazard Modeling Interactive Spreadsheet introduced another mechanism for assessing attrition called the Retention Prediction Tool. It was used to pinpoint the times at which students were most at-risk of leaving college (Rangwala and Fawcett 1996). Known as event history methods, this class of analytic techniques allows researchers to study both the occurrence and timing of events, like student departure.

Interactive spreadsheet models can be developed that predict how various student characteristics, choices of demographics and institutional aid policies affect students' chances of leaving or completing college. According to Rangwala and Fawcett (1996), these analytic tools can help colleges recognize particular factors affecting student departure that sometimes have effects that change over time. For instance, researchers at the University of Minnesota discovered that the provision of work/study aid reduced attrition early in a student's academic career but did not reduce attrition in later years (Des Jardinis, Ahlburg, and McCall 1997). Those results led to a review of financial aid packaging and how it could be more effectively and efficiently disbursed.

In the last 15 years, a number of theoretical models (Bean 1980, 1981d; Bean & Metzner 1985; Pascarella & Chapman 1983; Pascarella, Duby, & Iverson 1983; Spady 1970; Tinto 1975) have been developed, each attempting to contribute to the understanding of the complex phenomenon of attrition. Those models were comprehensive and explanatory in nature and offered parsimony and focus to an area of

inquiry previously characterized by the lack of a coherent and interrelated body of knowledge.

The review of the literature focuses on the development of theoretical models of attrition and the variables employed in the models, in particular Bean and Metzner's model of nontraditional student attrition.

Attrition of Traditional Students

In addition to the major theories of student attrition, a number of theorists (Astin 1969, 1972, 1975b; Cope & Hannah 1975; Panos & Astin 1968; Rootman 1972) have utilized a conceptual framework for their studies. Astin (1969, 1972, 1975b) and Panos and Astin (1968) developed regression equations to predict a student's likelihood of successfully completing a particular college-level program in which he or she was enrolled. Those equations included individual student demographic characteristics as well as institutional variables. In addition, Astin (1969, 1972), Cope and Hannah (1975), and Rootman (1972) constructed models of institutional congruence or fit. Those theories stated that a student's withdrawal from college depends on how well his or her demographic background, intellectual variables and personality match the particular institution. For a student to have a chance to succeed at a particular institution, the student should be effectively integrated into one or more areas of the college. In 1996, a Retention Report completed by Clayton State University in Georgia used Astin's framework when performing their study (Astin 1993).

Over 20 years ago, three significant theoretical models of attrition were developed. Each focused on traditional college students. The models of Spady (1970),

Tinto (1975) and Pascarella (1980) are briefly reviewed here, for they serve as a foundation for the Bean and Metzner (1985) conceptual model of nontraditional student attrition, which is central to the present research effort.

Spady

Spady's (1970) "Explanatory Sociological Model of the Dropout Process" constituted one of the first fully developed theoretical models of student attrition. His theory was based on Durkheim's (1961) idea that shared group values and friendship support reduced suicide. Durkheim found that when a person shared values with a group and had support of friends, that person was less likely to commit suicide. Durkheim believed that integration into religious, domestic or political society reduced the likelihood of an individual's committing suicide. According to Durkheim, suicide varies inversely with the degree of integration of the social groups in which the individual forms a part. By analogy, Spady related that concept to the dropout process. In his model (Figure 2), Spady recognized that family and individual background influenced the ability of students to accommodate the pressures of new environments. He concluded that the interaction of background and environment resulted in a phenomenon that he called "normative congruence." Such an interaction facilitated or impeded those social patterns of behavior of college students. Spady also included in his model the variable of friendship support. To the two variables, he added the variables of grade performance and intellectual development. All of those factors, Spady theorized, led to greater social integration. Social integration was expected to increase institutional commitment.

Figure 2. Spady's theoretical based model of the undergraduate droput process 1970.

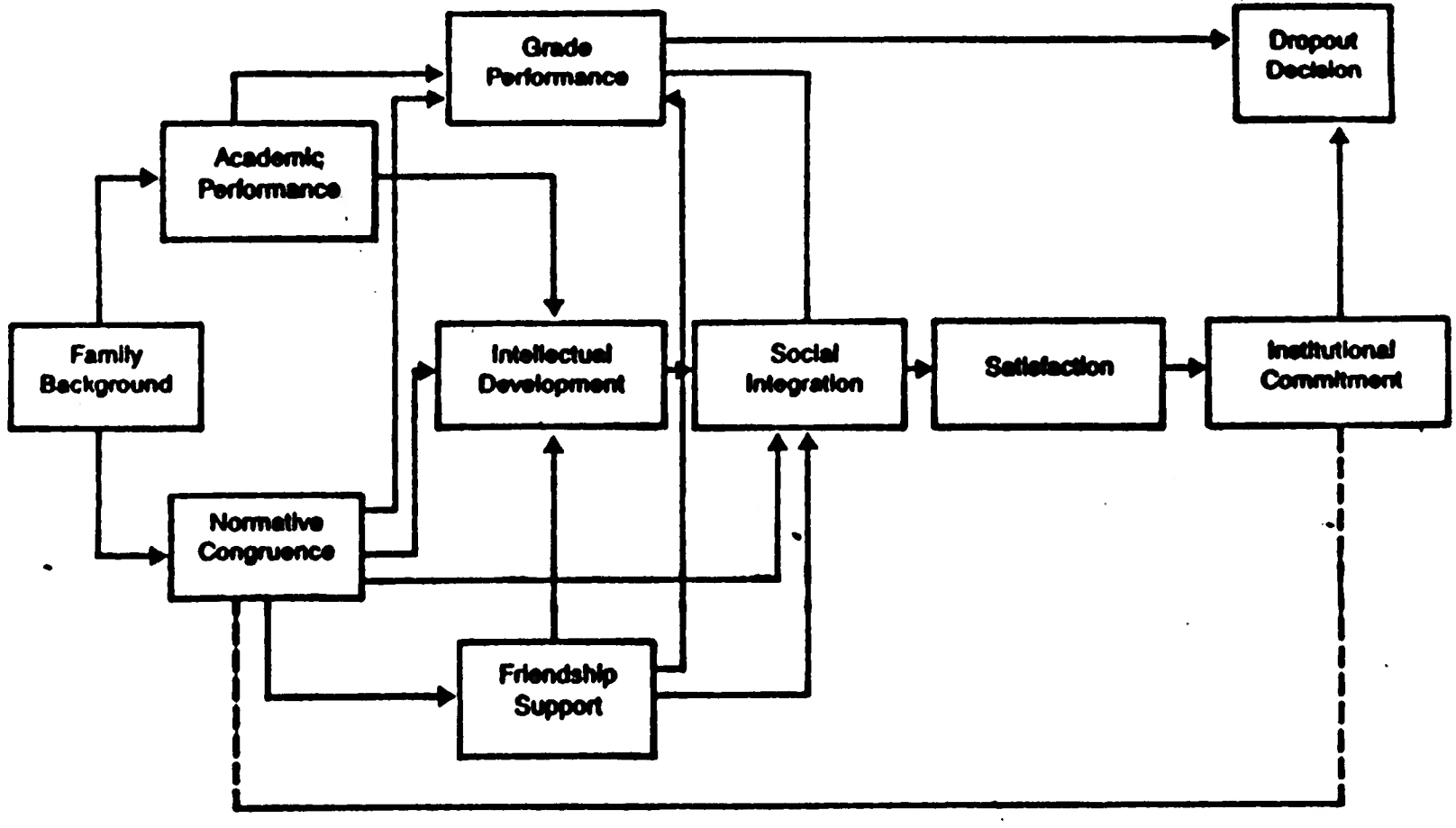

Figure 2. Spady's theoretically based model of the undergraduate dropout process (1970).

Institutional commitment, in turn, reduced the likelihood of dropping out. Spady argued that students could be expected to withdraw from college for the same reasons that people withdraw from the social milieu through suicide. He translated this into the concepts of academic integration (shared group values) and social integration (friendship support). According to Spady, attrition was a longitudinal process and the decision to leave a particular social system was the result of a complex social process that included family and previous educational background, academic potential, normative congruence, friendship support, intellectual development, grade performance, social integration, satisfaction and institutional commitment. A student's interaction with the institution played an important part in the decision to stay in or drop out of school.

Spady also stated that an individual's background characteristics were important to the dropout process, specifically, family background, academic potential, ability and socioeconomic status. In addition, the endogenous variables of normative congruence and friendship support were important parts of the model. Added to those were the variables of college grade performance and intellectual development. All those variables led to greater social integration. Social integration was expected to increase satisfaction that, in turn, increased institutional commitment. The lack of institutional commitment was considered to be the direct antecedent of dropout. Grade performance was hypothesized to have a direct effect on decisions to dropout. He found, also, that satisfaction was not directly related to dropout but only indirectly through institutional commitment.

In a study published in 1971, Spady reported testing his model with longitudinal data on 683 first-year students who entered the College of Chicago in 1965. As a result

of the study, Spady modified the structure of his earlier model by taking into consideration the differences he identified in male and female behaviors. Spady's 1971 model is found in Figure 3. While Spady (1971) continued to stress the importance of social integration, he stated that formal success seemed to demand some degree of renunciation of interpersonal contacts as well as a very high level of intellectual aptitude and formal training.

Tinto

The Tinto (1975, 1987, 1993) model of retention/attrition has been widely examined, tested and accepted by the educational community since it was first published in 1975 (Halpin 1990; Pascarella & Chapman 1983; Pascarella et al 1983; Terenzini & Pascarella 1980). His model of student attrition (1975) (Figure 4) was built on Spady's earlier concepts of social and academic integration into the institution. Critical of previous research, which described the processes that brought a student to leave college, Tinto's model simply stated that an individual's pre-entry college attributes (family background, skill and ability and prior schooling) form individual goals and commitments. The individual's goals and commitments interact over time with institutional experiences (the formal and informal academic and social systems of an institution). The extent to which the individual became academically and socially integrated into the formal and informal academic and social systems of an institution determined the individual's departure decision (Tinto 1993). The higher the degree of integration of the individual into the college system, the greater was the student's commitment to the specific institution and the goal of college completion. It was that interplay between the individual's commitment to goal completion and his or her

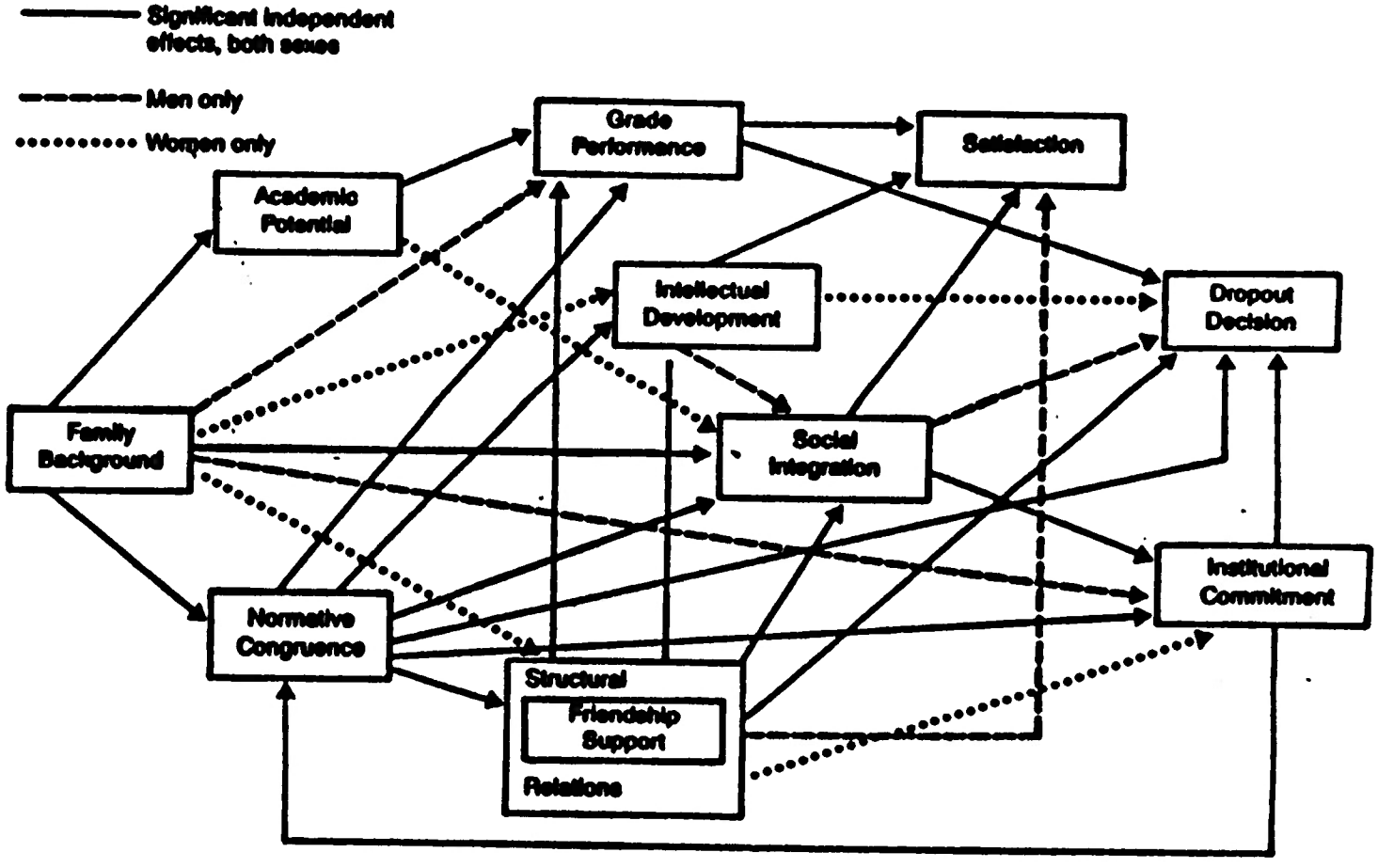

Figure 3. Spady's empirical model of the undergraduate dropout process (1971).

commitment to the institution that determined whether or not the individual decided to drop out. Either low goal or low institutional commitment led to dropout.

Tinto's model has served as the basis for a number of research studies and doctoral dissertations since its inception (Haney 1990; Allen 1986; Fox 1985; Pascarella 1980; Pascarella & Chapman 1983a, 1983b; Pascarella, Duby & Iverson 1983; Pascarella, Smart & Ethington 1986; Pascarella & Terenzini 1979, 1980, 1983; Terenzini, Lorang & Pascarella, 1981; Terenzini & Pascarella 1977). Pascarella and his colleagues were specifically interested in investigating the influences of different types of social and academic integration for different kinds of students. The question asked was: are certain aspects of academic and social integration more important than others in positively influencing the persistence of students with initially high levels of pre-college characteristics such as degree aspirations, commitment to college completion and academic aptitude? Such interaction effects could suggest that the major benefits of certain college experiences and involvement tend to accrue to those students whose entering level of educational aspirations and aptitude made their persistence likely to begin with. Conversely, do influences of other experiences within the institution's academic and social systems tend to compensate for initially low levels of such entering characteristics as degree aspirations, ability and parent's educational level? Findings of those studies generally supported the predictive validity of the major dimensions of the Tinto model. There was a strong relationship between the frequency and quality of student/faculty relationships and persistence. Later studies by Pascarella and his colleagues addressed several sampling and methodological problems. In a study with Chapman (1983), Pascarella investigated the validity of Tinto's model with four different

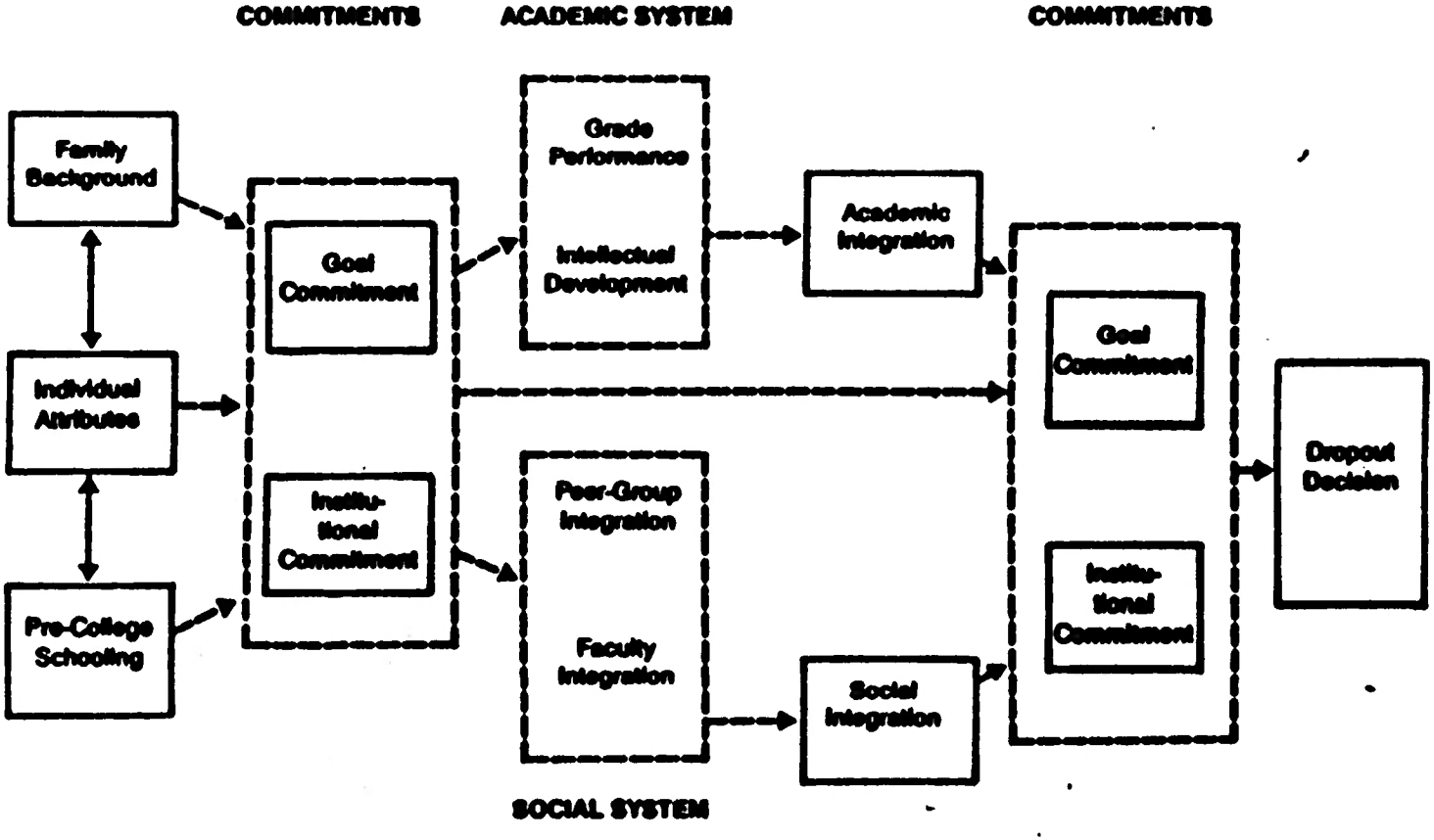

Figure 4. Tinto's Conceptual model for dropout from college (1975).

types of institutions rather than a single institution. They were concerned about the generalization of results from single institution studies. Related to that was a concern that nearly all investigations were conducted at large, four-year, residential institutions. As a result, little was known about the predictive validity of the model in two-year community colleges or predominantly commuter institutions.

Results of that study and another by Pascarella, Duby and Iverson (1983) using similar methodology questioned the applicability of the Tinto model as it was structured to two-year and/or commuter institutions. Astin (1975) and Chickering (1974) suggested that commuter students were significantly less likely than residential students to be involved in the cultural and intellectual life of the institution or to interact with faculty or their peers, the institution's major agents of socialization. Because of obligations outside the college campus, students spent less time on campus, and therefore, had fewer opportunities for social involvement with faculty or their peers.

Findings of the Pascarella, Duby and Iverson (1983) study suggested that certain dimensions of the Tinto model functioned as expected, while other dimensions did not. Tinto's central concept of academic integration in which persistence was predicated to a significant extent on the individual's attaining significant levels of structural integration (extrinsic reward of grades) and normative integration (intrinsic reward of intellectual development) was supported in the study. They discovered, however, that social integration negatively influenced persistence. Their explanation of that result was that students who had high levels of social integration tended to have high affiliation needs (i.e., the extent to which a person was group-centered, friendly, and participated with

others). The more socially integrated student may have been more sensitive than the less socially involved student to the more limited opportunities for satisfying social integration with faculty and peers at a nonresidential institution.

The authors cautioned, however, that the findings of the study may have been the result of sampling error or lack of power. Rather than discard major theoretical components of the model, they suggested it might be necessary to add variables to the model as well as rethink the patterns of influence among the variables. The revised model proposed by Pascarella, Duby and Iverson (1983) assumed that the characteristics a student brings to the college (e.g., academic aptitude, race, sex and affiliation needs) not only influence his or her interaction with the college environment but have a direct, unmediated affect on persistence. Academic integration was hypothesized to have had a direct positive influence on persistence and an indirect effect through its influence on goal commitment. The student's institutional commitment at entry may have had a direct influence on academic integration, which in turn directly influenced subsequent institutional commitment. Social integration was hypothesized to have been nonsignificant based on the assumptions, first, that commuter institutions typically provided significantly fewer opportunities for social involvement and integration than residential institutions and, second, that this fact may lead to a more complex relationship between social integration and persistence than Tinto originally hypothesized. One major addition to the model was the inclusion of the intention variable. Intent to continue at the institution had the strongest direct effect of any variable on freshman year persistence/withdrawal.

Fox (1985) tested the revised model on a group of disadvantaged students at a nonresidential institution. Results of the study supported the findings of Pascarella and his colleagues. Academic integration was shown to be the most salient aspect of development for the group of disadvantaged students. The dimensions of academic disadvantage were more serious in relation to retention chances. According to Fox, academic integration was clearly the most important correlate of first-year retention.

Allen (1986) also tested Pascarella, Duby and Iverson's (1983) reconceptualization of Tinto's model. Allen tested the model in a medium-sized, urban commuter institution. The model without intention only explained 10 percent of the variance in dropout. When it was included, 30.5 percent of the variance was explained. Results reinforced certain parts of the model while showing contradictory results for other parts. Asking students at the end of the first year whether they planned to continue had the strongest direct effect on freshman year persistence/withdrawal and explained the largest amount of variance in the model. Unlike the Pascarella, Duby and Iverson study, however, Allen found that goal commitment had a positive direct effect on both social and academic integration with and without the inclusion of the intention variable. Like their study, background characteristics were found to significantly affect persistence. Another finding of the study was that students who intended to major in liberal arts were more likely to persist.

Consistent with the Pascarella, Duby and Iverson's study, the hypothesized pattern of influence that given a reciprocal, functional relationship between social and academic integration, students with higher and more personally satisfying levels of social interaction with faculty and peers would tend to persist was supported. In both studies,

social integration had a nonsignificant influence on persistence, as mediated by subsequent institutional commitments. With all the variables in the model, persistence could be predicted based on the level of social integration. That finding supported the importance of the role played by academic integration in commuter institutions.

A final issue addressed by Allen concerned the role of commitment variables in the model. In his study, institutional commitment had both significant positive direct and indirect effects, depending on the inclusion of the intention variable. Pascarella, Duby and Iverson (1983), however, found that by removing the intention variable, institutional commitment failed to have a significant effect on persistence. Allen's study seemed to indicate that persistence in some commuter institutions was predicated mainly on three factors. They were: (a) the student's intention to persist; (b) the individual's attaining sufficient levels of integration in the institution's academic system as measured by the student's academic performance and assessment of his or her intellectual development; and (c) his or her commitment to the institution as measured by satisfaction with the college.

Pascarella, Smart and Ethington (1986) applied Tinto's model to explain long-term persistence/withdrawal of students who began their education in two-year institutions. Results from that longitudinal study of a national sample of 825 students in 85 two-year institutions tended to confirm the importance of the person-environment fit as an influence in persistence. They found that academic and social integration variables had a strong positive influence on measures of student persistence. Knowing a faculty member or administrator personally had the strongest significant partial association with both degree completion and degree persistence for men. For women, editing a school

publication had a significant positive partial correlation with persistence, while being part of a student organization had a marginally significant correlation with degree completion.

The patterns of direct and indirect variables in the model were noteworthy. Only four of the student background characteristics and initial commitments had significant direct affects on persistence. For men, secondary school achievement had a positive direct affect on degree completion, while male degree completion was negatively influenced by commitment to the initial institution of enrollment. For women, socioeconomic status had a positive direct affect on degree completion. None of the background characteristics or initial commitments had consistent patterns of significant direct affects across both persistence measures.

Both academic and social integration variables were the only predictors to have significant direct affects on both persistence measures for men and women. They suggested, therefore, that students who initially enrolled in two-year institutions were significantly more likely either to obtain or persist in pursuit of a bachelor's degree if they became successfully integrated into the social and academic systems of the last institution attended.

One of the few models, which addressed attrition of specific student populations, was that of Boshier (1973). He produced a model of attrition that focused on adult students. Two main concepts were introduced: (a) deficiency motivation that results from incongruence between the student role and self-concept and between the student and lecturer; and (b) growth motivation that represented congruence between self-concept and the student role, the lecturer, and other unidentified variables.

Price's (1977) research on turnover in work organizations introduced concepts that had potential relevance for attrition in educational institutions. Price's model identified six independent variables (pay, having close friends, participating in making decisions, receptiveness of work, knowledge of work role, and being treated fairly). Those variables were expected to influence job satisfaction and that increased satisfaction with one's work was expected to reduce turnover. In addition, opportunity to leave was expected to interact with satisfaction. For example, employees would leave an organization when they were dissatisfied only if they perceived an opportunity to go elsewhere. Bean (1980, 1982a) and Bean and Metzner (1985) translated that into the opportunity to transfer variable. Another key concept in Price's model was that satisfaction and turnover were considered to be structural variables, meaning they were potentially under the institution's control. Price also introduced a key type of variable that was external to the organization (e.g., the opportunity variable).

Pascarella

Pascarella (1980) developed the third model of the attrition process. His model emphasized the importance of informal contact with faculty members. In Pascarella's model, background characteristics interacted with institutional factors, which in turn influenced the informal contact with faculty members, other college experiences, and educational outcomes. As seen in Figure 5, educational outcomes consisted of academic performance, intellectual development, personal development, educational and career aspirations, college satisfaction, and institutional integration. Pascarella concluded that those educational outcomes were expected to have the most direct affect on persistence or withdrawal decisions.

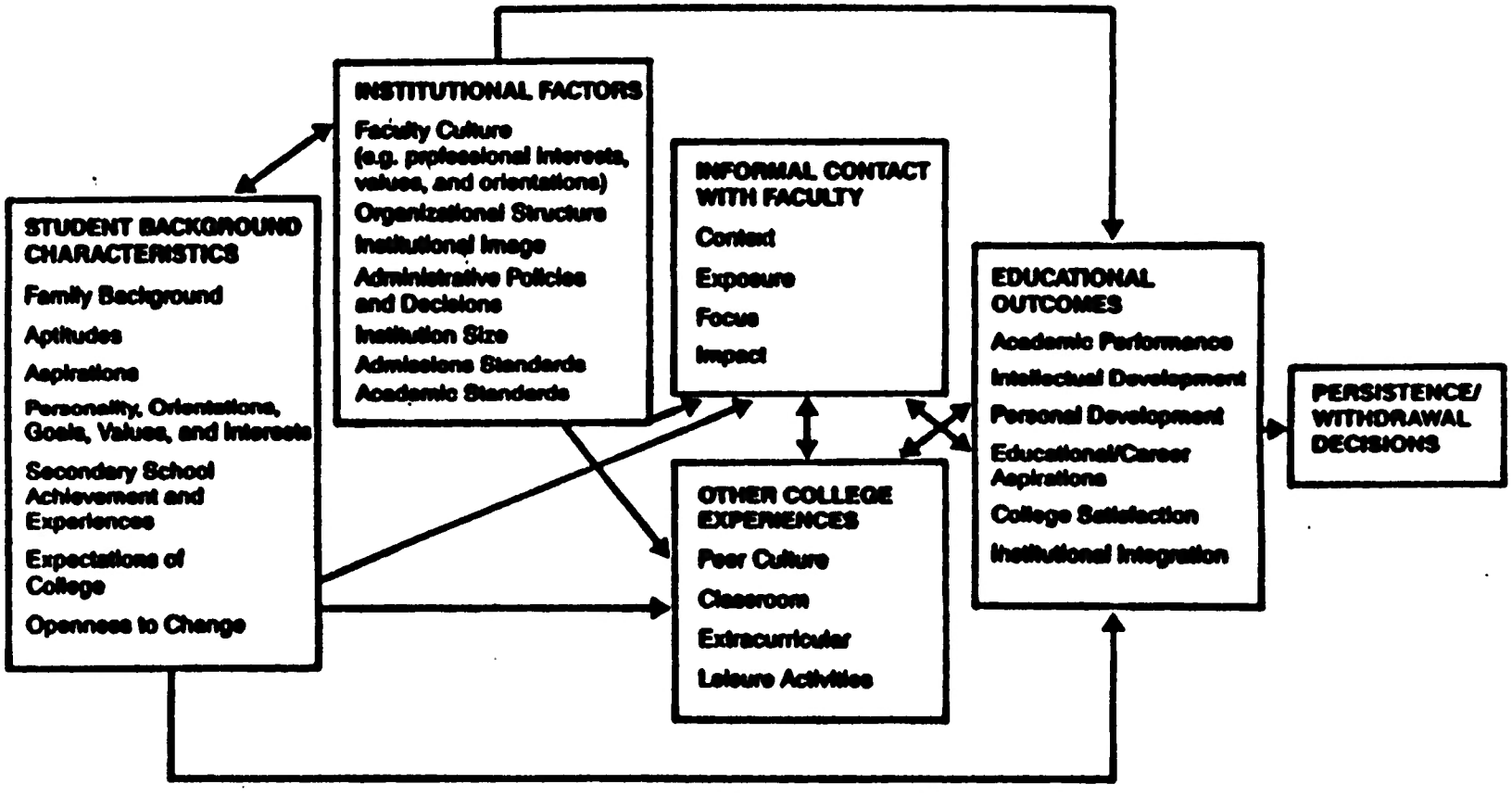

Figure 5. Pascarella's conceptual model for student-faculty informal contact (1980).

Pascarella's model has not received the same extensive use in research studies as has Tinto's model. Yet, Tinto supported Pascarella's argument that student-faculty interaction was a significant factor in retention in his 1981 paper, "Student Disengagement Revisited: Some Thoughts on the Limits of Theory and Practice in Student Attrition."

In summary, each of the three models had an underlying factor that was important to student integration into the social and academic systems of the institution. Each model attempted a longitudinal explanation of a complex process in which interaction among variables influences both educational and attitudinal outcomes. Additionally, each model was conceptualized and developed for traditional college student populations in residential settings.

Attrition of Nontraditional Students

Bean

Bean (1980) adapted and modified Price's Model. The modified version included seven background variables (e.g., parents' education and high school grades) which were expected to influence 20 indicators of a student's interaction with the organization. The 20 indicators included having close friends, helpfulness of the advisor, informal contact with the faculty, college grades and membership in campus organizations.

The academic and social integration variables were substituted by Bean for the organizational variables in Price's model. Those variables were expected to influence seven intervening variables of which six were attitudinal measures and the other absenteeism. Those intervening variables were expected to influence institutional commitment, operationalized by measures of intent to stay at the institution. The more

the student intended to stay, the less likely the student would be to dropout. In addition, the model contained four personal determinants (i.e., goal commitment, major and occupational certainty, and confidence). Those were expected to have direct effects on institutional commitment and dropout. Bean added six environmental variables to the model: (a) opportunity to transfer, (b) opportunity to get a job, (c) family approval of the institution, (d) family responsibility, (e) likelihood of marriage, and (f) difficulty in financing one's education. Those variables were expected to have direct effects on institutional commitment and dropout but not necessarily to be modified by the intervening variables.

That was the first model to use attitudinal variables to predict intent to leave. In addition, the model was important because it operationalized specific elements of the person-role fit and social integration variables.

The intent to leave variable was derived from work by Fishbein and Ajzen (1975), which indicated that behavior was preceded by an intention to perform that behavior.

They suggested that the immediate antecedents of intent to perform a behavior were the attitudes toward that behavior and a subjective norm concerning the behavior. They stated that beliefs about the consequences of a behavior preceded the attitude toward the behavior, and normative beliefs about a behavior influenced the subjective norm concerning the behavior. The attitudes and subjective norms about a behavior led to the behavior itself.

In Bean's (1980) study, the four background variables were expected to influence future behavior directly. Dropout decisions should be the result of past behavior, attitudes and norms with intent as an intervening variable. In the model, intent was

considered to be the immediate precursor of dropout decisions. Bean (1981c) synthesized many of the previous concepts into a single model of student attrition. The purpose of the synthesized model was not to offer a full explanation of the dropout process across institutions or at the national level, but rather to indicate the information which, if known about a student, would likely indicate if that student was going to drop out. Additionally, it would give some reasons why a student was leaving school.

Four classes of variables were identified in the model: (a) background, (b) organizational, (c) environmental and (d) attitudinal and outcome, all of which had direct or indirect affects on intent to leave. The background variables represented facts about students before they entered college and preceded the students' interaction with the organization or preceded an assessment of the organizational environment as the students' college career proceeded. They were included largely to enhance the explanation of the organizational and environmental variables and generally contributed little to the explained variance in dropout when information was known about the other three sets of variables and intent to leave. Bean suggested that high school performance was the most important of the variables, explaining 50 percent of the variance in college grades.

Organizational variables were indicators of a student's interaction with the organization and were intended to reflect a student's objective experience with the organization (e.g., amount of informal contact with faculty or amount of help from an advisor). They included structural variables (i.e., those variables that can be administratively manipulated). For example, if greater contact with an academic advisor reduced attrition, then more frequent contact with an academic advisor could be

encouraged or required by the institution. Those were also the variables where the extent of students' sharing group values, friendship support, and regulation of behavior by the institution was determined. Those variables indicated Spady's (1971) grade performance, normative congruence, friendship support, and social integration; Rootman's (1973) actual interpersonal fit, person-role fit, and discussing leave with insider and outsiders; Tinto's (1975) grade performance, peer group interaction, and faculty interaction; and Price's (1977) pay (grades representing the pay measure), participation in decision making, repetitiveness, and communication. In addition, they were indicators of the amount of services at the institution used by the student and represented other institution-specific variables.

The environmental variables were the structural opposites to the organizational variables (i.e., the institution had little or no control over them). Included were opportunity to transfer or get a job, family approval, student major, family responsibility, likelihood of marriage and difficulty in financing school. Some of those, especially opportunity to transfer, family responsibility and difficulty in financing school, were hypothesized to have greater influence on the attitudinal variables. Those variables were viewed as objective assessments of the environment outside the institution. Attitudinal and outcome variables indicated more subjective evaluations of a student's education, the institution and his or her goals. Those included: (a) assessment of the practical value of an individual's education, institutional quality and an individual's self development; (b) the satisfaction and boredom one felt at school; (c) confidence in being a successful student; (d) adjustment to the institution, (e) certainty of choice; (f) loyalty (i.e., the importance of graduating from the institution currently enrolled in as opposed to

another); (g) major and occupational certainty; and (h) educational goals. In addition, Bean included absenteeism even though it was a behavior rather than an attitude. Loyalty and certainty of choice reflected Spady's (1971) and Tinto's (1975) institutional commitment variable. The other variables included some of what Pascarella (1980) considered educational outcomes and what Fishbein and Ajzen (1975) considered attitudes. Bean expected that most of those variables would have a significant relationship with intent to leave and would subsume most of the direct affects of the organizational, and environmental variables on intent to leave would be better explained by the attitudinal variables than others in the model.. The attitudinal variables were expected to be the best predictors of intent to leave. Environmental variables (e.g., opportunity to transfer) and organizational variables (e.g., grades) might also have had direct affects on intent to leave.

Bean (1981b) modified the synthetic model. Personal variables were seen as conceptually different from attitudinal variables. He classified goal commitment, major and occupational certainty, and confidence as personal variables. The four environmental variables were opportunity to transfer, likelihood of marrying, cost of financing one's education and family approval of the institution. Loyalty, certainty of choice, satisfaction and practical values were the attitudinal variables.

Bean hypothesized that confidence would have been a compensating effect on the influence of a variable on dropout. For example, a student with high confidence and high grades would have been expected to remain in school while a student with low confidence and low grades would have shown high potential for dropout. Students with high confidence and low grades, however, would have been less likely to dropout than

students with low confidence and low grades because confidence compensated for low grades. Results from the study indicated that intent to leave was the most important predictor of dropout and college grades the second most important. In each case they were negatively related to dropout. Opportunity to transfer had a significant negative relationship with loyalty and certainty of choice. Absenteeism was found to interact with confidence in influencing dropout. The hypothesis that attitudes significantly influenced intentions was supported.

Contrary to expectations, certainty of occupation and major had a significantly positive relationship with intent to leave. It was expected that a student who was certain of his or her major would have remained in school. Bean suggested that the way the variable was operationalized affected the results. He offered the interpretation that major certainty might have led to the need to transfer to an institution which had provided a more substantial major in the student's career field or, in the case of occupational certainty, if an occupation selected by the student had not required a college degree, that might have led the student to leaving the institution sooner. Practical value had a significantly negative relationship to intent and appeared to be one of the most important predictors; satisfaction was significantly related to intent to leave; loyalty had a significantly negative relationship with intent to leave; and opportunity to transfer had a significantly negative relationship with loyalty.

Bean (1981a) reduced the 23 variable model to 10 independent variables based on the results of the 1981 study. He suggested that the following 10 determinants were the most likely to produce variations in student attrition: (a) intent to leave, (b) practical value, (c) certainty of choice, (d) loyalty, (e) grades, (f) courses, (g) educational goals,

(h) major/certainty, (i) opportunity to transfer and (j) family approval of the institution. He suspected interaction effects based on sex and level of confidence and expected that students with high and low levels of confidence might have left for different reasons. He excluded the background variables because they were not viewed as contributing significantly to the explained variance in dropout. The model included the intent variable, three attitudinal variables and two each of organizational, personal and environmental variables. The linkages in the revised model were similar to those in Bean (1981b).

In that study the organizational, environmental, and personal variables were expected to influence the attitudinal variables in a one-way causal sequence. Attitudes (i.e., loyalty, certainty, and practical value) were expected to be negatively related to dropout. In addition, grades were hypothesized to have had a direct negative relationship on dropout and the environmental variables were expected to have had direct affects on intent and dropout. It was expected that environmental variables would have operated regardless of a student's attitudes about the institution (i.e., they would not have been moderated by the attitudinal variables). Results of the study indicated that the model accounted for a comparatively high amount of variance in dropout. Each of the variables contributed significantly to understanding some part of the dropout process. Intent to leave was shown to have been the best predictor. Following were the mean total effects from most to least important: (a) intent to leave, (b) grades, (c) opportunity to transfer, (d) practical value, (e) certainty of choice, (f) loyalty, (g) family approval, (h) courses, (I) student goals, and (j) major and occupational certainty .

Metzner (1984) evaluated the adequacy of Bean's (1982a) comprehensive model of student attrition for explaining attrition for nontraditional students. She examined the factors related to student's intent to leave college at a public, urban commuter university. One of the three subgroups studied was the older part-time student who she defined as freshman students age 21 years of age or older who were enrolled for less than 12 credits.

For the part-time, older freshmen, five variables were found to have been the best predictors of intent to leave: practical value, role satisfaction, school stress, transfer opportunity and parent/spouse encouragement. Those five predictor variables accounted for 27 percent of the variance in intent to leave.

Bean and Metzner's Model

The adult learner represents an increasingly larger proportion of the undergraduate college student population, (Carnegie Council on Policy Studies 1980 and VCCA Journal 1996), yet is one of the most vulnerable groups of students to attrition (Beal & Noel 1980). Research has suggested that relatively little research has been conducted on the attrition of adults (Bean & Metzner 1985) and, as a result, little is understood about the phenomenon. Present research supports the belief of Bean & Metzner regarding research in this area in that only a few studies are available; and little effort has been made to develop a theoretical model to explain retention, especially in two-year colleges. Presently, when a study is done, it uses techniques or tools that are not theoretically based, as mentioned earlier in Chapter 2. Concerns regarding the absence of research on the retention of adults have been expressed by several researchers (Bean & Metzner 1985; Lenning, Beal, & Sauer 1980).

Responding to the void, Bean and Metzner (1985) (Figure 1) developed a model of the attrition process pertaining specifically to the nontraditional student. Defining who the nontraditional student is poses some difficulty. It is not easy to classify traditional and nontraditional students into simple dichotomous categories. Bean and Metzner suggested that, for the purposes of the model,

> A nontraditional student is older than 24, or does not live in a campus residence (e.g., is a commuter), or is a part-time student, or some combination of these three factors; is not greatly influenced by the social environment of the institution; and is chiefly concerned with the institution's academic offerings (especially courses, certification, and degrees).(Bean and Metzner, 1985, 45).

According to them, the theoretical models described by Spady (1970), Tinto (1975), Pascarella (1980), and Pascarella and Chapman (1983) relied on socialization principles to explain the attrition process. Pascarella, Duby and Iverson (1983), however, suggested a revision of the Tinto model to explain the attrition of students at nonresidential institutions. The revised model introduced Bean's concept of intention to leave or stay as an important mediating influence on persistence/withdrawal behavior. According to Pascarella, Duby and Iverson (1983), the influence of subsequent institutional commitment on persistence was expected to be mediated by the intent to persist. In addition, the revised model suggested that the characteristics students brought to the college directly affected their persistence behavior. In the original model, pre-college characteristics were not expected to have strong direct affects on persistence. In the revised model, however, entering institutional commitment was expected to directly influence academic integration, which in turn directly influenced subsequent institutional commitment. Most importantly, the revised model deemphasized the importance of the social integration variable. It was expected to have either nonsignificant or strongly

negative effects because in commuter institutions opportunities for social involvement and integration were fewer.

Bean and Metzner suggested that nontraditional students were distinguished by the lessened intensity and duration of their interaction with the primary agents of socialization (faculty and peers) at the institution they attend. They were less likely to progress through the stages of self-development than traditional students because of lessened contact with faculty and their own peers (Chickering 1969, 1974). Unlike traditional age students who attended college for social and academic reasons (Tinto, 1975), nontraditional students' primary reasons for attending college were academic (i.e., taking courses for vocational, avocational, certification or utilitarian reasons). Current research also supported those findings.

According to Bean and Metzner, the nontraditional student did not greatly change his or her social environment and was, therefore, not greatly influenced by the institution's social environment. Previous theories (e.g., Spady 1970; Tinto 1975; Pascarella 1980; Pascarella & Chapman 1983) did not adequately explain the attrition process for nontraditional students. Instead, Bean and Metzner (1985) theorized that the older, part-time, commuter student had less interaction through extracurricular activities than that of the traditional age, full-time, residential student and was influenced more by his or her external environment. Citing Murray (1938), they stated that the nontraditional student experienced an environmental press while attending college that differed from that of the traditional age student. That press was characterized by less interaction in the college environment with peers or faculty and less interaction through extracurricular activities and the use of college services, class-related activities similar to the traditional

age students, and a much greater interaction with the external environment. Although cited by Murray years ago, current research still found those characteristics to be accurate.

Bean and Metzner (1985) did, however, include elements of the traditional theories of attrition: (a) the set of background variables which was expected to affect how a student interacts with the institution, (b) the concept of dropout as a longitudinal process and (c) academic variables which were expected to have a direct affect on dropout. They stated that dropout decisions were based primarily on four sets of variables: (a) background and defining variables, (b) academic variables, (c) environmental variables, and (d) intent to leave. They hypothesized that students with poor academic performance would drop out at higher rates than those who performed well and that college grade point average was based primarily on past academic performance (i.e., high school performance). Intent to leave is expected to be influenced primarily by the psychological outcomes but also by the academic variables. Background and defining variables, especially high school performance and educational goals, were expected to affect attrition but might be modified by other endogenous variables in the model. Environmental variables were expected to have substantial direct affects on dropout decisions.

Two compensatory effects were included in the model. Those interactions were similar the compensatory effects between social and academic integration in the models of Tinto (1975) and Pascarella and Chapman (1983). For Bean and Metzner, the environmental variables were expected to have been more important for nontraditional students than academic variables. Therefore, when academic and environmental

variables were both favorable for persistence, students should have remained in school, and when both were not, students should have left school. When academic variables were favorable but environmental variables were not, a student should have left school, and the positive effects of the academic variables on retention would have not been seen. When support from the environment was positive and academic support was poor, students should have remained in school. The environmental support compensated for poor academic support. For example, if a student was unable to finance the cost of his or her education, he or she would not continue in school despite good academic support. Students who were encouraged to remain in school significant by others probably would remain in school despite poor academic support. Bean and Metzner (1985) suggested, therefore, that for nontraditional students, environmental support compensated for weak academic support, but academic support would not compensate for weak environmental support.

The second compensatory effect was between the academic outcome, GPA, and the psychological outcomes. Those students who scored high in both should have remained in school, while students who scored low in both would have been expected to drop out of school. Students who perceived low levels of utility, satisfaction, or goal commitment or who had high levels of stress, however, may have dropped out of school despite high GPAs. On the other hand, if they were to perceive positive outcomes from college attendance, they might have remained in school despite low GPA's. The nonacademic factors compensated for low levels of academic success, while high levels of academic achievement only resulted in continued attendance when accompanied by positive psychological outcomes from school. A variety of behavioral theories and

models of student attrition were used as a basis for linking the variables in the model. Background variables were included not only because they appeared in most conceptual models of student attrition (Bean 1982; Pascarella, 1980; Pascarella & Chapman 1983; Spady 1970; Tinto 1975), but also because past behavior was expected to predict future behavior (Bentler & Speckart 1979). Bean and Metzner (1985) included the major defining variables of nontraditional students (age, enrollment status and residence) as reminders that they must be controlled or they would be expected to interact with other variables.

The inclusion of the environmental variable was derived from Lewin's (1935) concept that behavior was a function of the person and the environment. Bean and Metzner (1985) suggested that "nontraditional students were much more closely connected with the external environment" (p. 492) and that "external contacts reduced the likelihood that students would be socialized by college contacts" (p. 492). For them, the academic variables represented the primary way nontraditional students interacted with the institution and were expected to have a direct effect on academic performance (GPA) and be negatively related to intent to leave.

The psychological outcomes and attitudes toward school concepts were derived from several theoretical sources. Locke (1976) suggested that it was the evaluation of our past experiences which gave rise to our attitudes. Bean and Metzner (1985) suggested that the student's experience in and out of school influenced the attitudes about his or her education and ultimately the decision to continue in school. The academic and environmental variables should directly influence the psychological outcomes and attitudes toward school.

Fishbein and Ajzen (1975) suggested that attitudes led to intention, which in turn led to behavior. They suggested then that a student's attitude toward the academic experience affected his or her intent to continue in school, which in turn resulted in the student's staying in or dropping out of school.

Test of the Bean and Metzner Model

Metzner and Bean (1987) tested the model of nontraditional student attrition at a commuter university which enrolled 22,000 students. The study was conducted with 624 part-time, freshmen commuter students. The 26 variables in the model accounted for 29 percent of the variance in dropout. In terms of the theoretical basis of the model, the significant relationships were about as expected.

GPA and intent to leave were the best predictors of dropout, with hours enrolled (a background variable) the next best. The direct effects between the environmental variables and dropout, however, were not found and seemed to be mediated by intent to leave. As expected, intent to leave was one of the strongest predictors of dropout and was best predicted by the psychological outcome variables, utility and satisfaction. The effects of age (i.e., older students were less likely to intend to leave) and educational goals (i.e., the higher the goals, the less likely one would intend to leave) were stronger than Metzner and Bean anticipated.

Educational goals had stronger negative affects on intent to leave than goal commitment. Finances, outside encouragement and opportunity to transfer had significant affects on intent to leave. Only one of the social integration variables affected intent to leave. Out of class faculty contact was positively related to dropout. High school performance, age and ethnicity were significantly related to GPA as were two of

the academic variables, as predicted. High school performance, in fact, was stronger than predicted. According to Metzner and Bean, "For the four psychological outcomes, the six academic, and the five environmental variables were predicted to have the strongest effects, and such effects were common. Perhaps the biggest surprise was the relative importance of the background variables in affecting the psychological outcomes." (1987, 120)

In summary, significant effects were found for 11 of the 12 major paths in the model. As predicted, the social integration variables did not have a significant impact. The majority of minor direct effects were found. Unexpected findings included the failure of the environmental variables to affect dropout directly and their three significant effects on intent to leave. The influences of background variables on dropout were almost always indirect. Also, goal commitment and stress were not directly related to dropout or intent to leave. The authors suggested that the model may need to be respecified or analyzed using only older nontraditional students.(Bean & Metzner 1985)

Bean and Metzner (1985) employed a number of variables in the model and a brief review of the literature is provided for each.

Environmental and Academic Variables

In their description of the Conceptual Model of Nontraditional Student Attrition, Bean and Metzner (1985) provided an extensive search of the literature as a basis for the inclusion of particular variables in their model. A brief review below supports why those particular variables were included in their model.

Environmental Variables

Environmental variables are those over which the institution has little control and which might pull the student from the institution. They are presumed to have direct affects on attrition decisions as well as indirect affects on dropout through the psychological outcome variables (Bean & Metzner 1985).

Lack of Finances. Financial difficulty was found to be positively related to withdrawal behaviors in numerous studies. (Aiken 1968; Astin 1969, 1971, 1975b, 1977; Bennett 1977; Brunner, Packwood, & Wilson 1978; Curran 1981; Daly & Beteman 1978; Gorter 1978; Hinrichsen & Schumberg 1976; Iffert 1958; Johnston 1982; Jones & Dennison 1972; Krebs & Liberty 1971; Louis, Colten, & Demeke 1984; McMillan 1969; Miller 1978; Monroe 1972; Reehling 19890; Roueche 1967; Smith 1983; Smith 1985; Summerskill 1962). That result generally was confirmed in all types of institutions (Astin 1972; Gordon & Johnson 1982; Lenning et al. 1980; Pantages & Creedon 1978). Older students as well as traditional-age college students were concerned about the costs of attending a college or university (Cross 1981; Hughes 1983; Lenning & Hanson 1977). Both part-time and full-time students who withdrew from a community college mentioned financial difficulty as one of the two most important reasons for not continuing (Gorter 1978). Finances as a reason for dropping out was the major one cited by students in studies by Jones and Dennison (1972) and Adams and Smith (1987). Louis, Colten and Demeka (1984) reported that dropouts had more financial stress than persisters. Curran (1981) cited not having enough money as a major reason for withdrawal at the University of Iowa. Tweddale (1978), however, found that financial problems played a smaller part than expected in withdrawal decisions. Lucas (1981)

found that finances contributed to early warning signals for nonpersistence. MacMillan (1969a) found that dropouts expressed more concern about finances than persisters. Sewall (1984) found that finances were considered to be a very important barrier to attending school by one-quarter of respondents. In a longitudinal study of freshman based on a national sample, Solmon and Gordon (1981) found that 65 percent of traditional-age students and 68 percent of older full-time students expressed some concern about their finances as did 53 percent of the older, part-time students. Sheldon (1983) found that, although finances did not appear to account for a disproportionately high attrition rate, they were a constant issue for students on campus.

There is evidence that finances are a factor in student attrition. As Iffert (1958) stated, "In college, as in the market place, the ability of the consumer to pay for the product is important."

Hours of employment. Numerous studies have examined the relationship between the reported number of hours worked per week and persistence in college. Such studies have supported the conclusion that persistence and hours of employment are related (Astin 1972, 1975; Lenning, Beal & Sauer 1980; Pantages & Creedon 1978; Peng & Fetters 1978). While research settings are mixed in terms of type and size of institution, most research confirmed that the number of hours worked per week was negatively related to persistence. Furthermore, research indicated that employment for more than 20 to 25 hours per week was a factor in dropout behavior (Astin 1975).

Employment-related reasons (e.g., obtaining a job, changing jobs, time conflicts due to employment) have been cited as significant reasons why students do not return to college (Bennett 1977; Berkove 1976; Brunner, Packwood & Wilson 1978; Bucks

County Community College 1973; Daly & Bateman 1978; Endo & Harpel 1979; Friedman & Dennett 1985; McLean 1986; Miller 1978; Montemayor, Dominguez & Reed 1985a; Roesler 1971; Smith 1985; Stine 1976).

Older students, particularly those attending college on a part-time basis, are more likely to be employed and work more hours than the traditional-age college student (Kuh & Ardailo 1979). Greer (1980) found that older students were more likely to work more hours than younger students. A higher percentage of nongraduates were found to be working an average of thirty hours per week in an attrition study at Bucks County Community College (1973). In addition, nongraduates listed employment as a primary reason for withdrawal. Bromley (1973) found that 60 percent of the students were working full-time.

Berkove (1976) found that one-third of persisters were employed part-time or full-time while attending colleges. Conflict with job responsibilities was cited as a major reason for withdrawal in a number of studies (Dennis-Rounds 1983; Freidman & Dennett 1985; Hunter & Sheldon 1980; Johnston 1982; Reehling 1980; Sheldon 1983; Smith 1983). Johnston (1982) found that students who were working full-time and going to school were particularly vulnerable to attrition. In a study of a select group of adult women in a community college, Reehling (1968) found that dropouts did so because of job responsibilities and lack of time. Employment-related reasons were among the most significant reasons for withdrawal for students between ages 25 to 29, 30 to 34 and 45 to 54 in a study by Montemayor, Dominguez, and Reed (1985b). Roesler (1971) found that the need for employment constituted the second most frequent reason for withdrawal. Friedman and Dennett (1985) found that employment factors were cited by 42.7 percent

of full-time students as reasons for leaving Northern Virginia Community College. In that study, 35 percent of the students who withdrew left to find employment. Bakshis (1979) found that men, in particular, experienced conflicts with their jobs and were more prone to dropping out.

Only a few studies indicated that employment-related factors were not significantly related to withdrawal. Mahon (1974) found that only 11 percent of the nonreturnees in a community college left for work purposes, while Hilton (1982) discovered that hours worked was not related to the withdrawal of students.

Outside encouragement. The encouragement that students receive from mothers who are significant in their lives has been a topic of research for some time. Bean and Metzner (1985) defined such "significant others" as parents of students, spouse, close friends or off-campus employers. Those influential persons (not employed by the college) in the student's life was an important variable in the model (Bean & Metzner 1985). For Bean and Metzner, outside encouragement replaced normative support in the models of Spady (1970) and Tinto (1975). In Bean and Metzner's model, support for attending school came from outside the institution and was expected to be qualitatively different from the suppport of those within the institution (Bean & Metzner 1985). External support rather than internal support was more important for nontraditional students because their group of peers, friends, employers and family were largely external to the institution.

The degree of parental encouragement toward a student's college attendance was found to be positively related to persistence in a number of studies (Brawer 1973; Cohen & Brawer 1970; Hackman & Dysinger 1970; Kester 1980; MacMillan 1969a; Marks

1967; Trent & Medsker 1968; Weigel 1969). Cohen and Brawer (1970) stressed the importance of the family environment and encouragement from the family in influencing student persistence. Brawer (1973) added positive reinforcement by peers as an incentive to remain in school. Weigel (1969) concluded that persisters were distinguished from nonpersisters by whether they were positively encouraged by outside influences to continue in school. In a longitudinal study of attendance patterns of community college students, MacMillan (1969a) found that, during the student's initial enrollment period, the amount of encouragement from parents was a factor in persistence. Results from the study confirmed Trent and Medsker's (1968) conclusion that the emotional climate of the home plays an important part in determining persistence of students in higher education. Sewall (1984) found that lack of encouragement from the family was an important barrier to students and delayed enrollment in college. Kester (1980), in a review of a California retention study, found that dropouts were less likely to receive parental encouragement for their educational plans.

Spousal encouragement, however, has rarely been studied. One of the few studies which examined student spousal support was conducted by Berkove (1976). That study of nonreturning women students showed inconclusive results on whether spousal support was a factor in persistence. Results indicated that, although the husbands of dropouts were significantly less helpful than those of persisters, the two groups were similar in levels of emotional support. In a study which examined the events that triggered adult enrollment in college degree programs, Sewall (1984) found that lack of encouragement was considered to be a barrier which delayed enrollment in college. Reehling (1980)

found that encouragement from others was not a major reason for women to pursue their educational goals.

Nontraditional students, particularly part-timers, are likely to be working while attending college. As Bean and Metzner (1985) believed that the extent to which employers were supportive of the student's college attendance provided the student with psychological reinforcement for continuing studies. Also, their willingness or lack thereof to support adjustments in work schedules or to provide reimbursement of college costs could affect persistence. None of the studies reviewed, however, included that variable.

Also, parental support was generally concluded to be related to persistence (Pantages & Creedon 1978; Spady 1970; Tinto 1975). Weigel (1969) reported that students who persisted in two-year colleges experienced more parental encouragement than those who withdrew. Few research studies measured the affect of encouragement by the spouse, girlfriend or boyfriend on a student's persistence.

Empirical studies, which measured close friends' encouragement, also were not found. Johnson (1981) reported in a study of commuter students that only one-third or fewer students listed students at the university as a source of close friends. Bucklin and Bucklin (1970), Lenning et al. (1980), Pantages and Creedon (1978), and Spady (1970) reported similar results.

Family responsibilities. In studies by Brainard (1973), Hunter and Sheldon (1980), and Martin (1974),. family pressures and obligations were reported as the major reasons for withdrawal by students attending community colleges. For adults, the role of

student was almost always secondary. Adults saw themselves first in occupational and/or family roles.

The student role remains secondary because it is sandwiched in between other demands (Marienau & Chickering 1982,). Generally adults have more demands on their time than do younger students and are usually juggling work and family responsibilities as well as academic responsibilities. Adults may have an inner knowledge that things other than college should be priorities.(Richter-Antion 1986). It is expected, therefore, that family responsibilities would play an important role in whether or not one continues with his or her education. This would be particularly true for women who still bear the primary responsibility for raising children and maintaining the home, even those who are also working.

Astin (1975) found that women cited marriage, pregnancy, or other family responsibilities more often than any other as a reason for withdrawal. In a study of returning women students, Berkove (1976) found that one-half agreed with the statement that returning to school was initially very stressful, and the dropout group had a significantly higher response to that statement. Dropouts were also significantly more tired and in poorer health than the persister group. Reehling (1980) found that dropouts had more children at home than persisters. Roueche (1967) examined 16 research studies on community colleges which focused on reasons for withdrawal and found personal reasons, health-related reasons, and family responsibilities as the most frequently cited reasons for withdrawal. For females, personal and family reasons were given as reasons for withdrawal and for all students between 45 and54 years of age, personal and family reasons were number one.(Montemayor, Dominguez, & Reed 1985a). Time pressures in

other parts of a student's life and personal problems contributed to withdrawal in a study by Louis, Colten and Demeke (1984). Gorter (1978) found that part-time students frequently left school because of family responsibilities. Krebs and Liberty (1971) and Sheldon (1983) supported the findings that family responsibilities played a major role in withdrawal. In a study of adult learners, Sewall (1984) found that family responsibilities were considered to be important barriers, delaying a student's enrollment. Among students 35 years and older, that variable emerged as a major reason for students not enrolling.

Conflicting conclusions were reported by Baumgart and Johnston (1977), who found that family problems were not significantly related to withdrawal of part-time students in a commuter university. However, in Carter's study (1982), family responsibilities were among the five most frequently reported reasons for withdrawal behavior of older and part-time students at a commuter university, but that reason was not found to be a factor in withdrawal behavior among traditional-age or full-time students.

Opportunity to transfer. Bean and Metzner (1987) cited transfer effect as a factor to be considered in attrition studies. It was viewed as a reversal of the expected relationship between a variable and attrition due to the student's dropping out to transfer to another institution. Potentially it could create surprising results in studies at institutions with a substantial transfer rate. They suggested that, at institutions with high transfer rates, researchers might include a control variable regarding students' likelihood of transfer.

Metzner and Bean (1987) found that students' perceptions of how difficult it would be for them to transfer to another college was negatively related to attrition.

Transfer to another college was listed as a major reason for withdrawal in a number of studies, particularly those conducted at commuter institutions (Behrendt 1974; Bucks County Community College 1973; Eagle, 1973 Johnston 1982; MacMillan 1969a; Tweddale 1978; Weigel 1969). Behrendt (1974) found that full-time students had a greater propensity for transferring than part-timers, while Preston (1976) discovered that traditional-age students had a greater propensity for transferring than older students. Although research is limited, Bean and Metzner (1985) believed that a probability of transfer may be greater for traditional-age students.

Research at a university (Bean 1982) revealed that a student's perception of how difficult it would be to transfer to another college was negatively related to attrition. Earlier, studies by Lenning et al. (1980) and Spady (1970) confirmed that student transfer was a significant reason given for students who withdrew from their initial colleges. At commuter colleges, many of which were two-year colleges, student transfers were often given as the reason for withdrawal (Behrendt 1974; Brainard 1973; Weigel 1969).

Academic Variables

Bean and Metzner (1985) indicated that "academic variables were prominent in models of traditional student attrition as indicators of academic integration." (p.499) Those variables were expected to have indirect affects on dropout through GPA, through the psychological outcome variables, especially satisfaction, and through intent to leave .

Study skills and habits. Based on extensive reviews of the literature, Pantages and Creedon (1978) and Lenning, Beal, and Sauer (1980) concluded that students who indicated they had poor study skills and habits were more liekly to drop out of college than those who indicated they possessed satisfactory study skills and habits. In a study

investigating the ability of university undergraduates in introductory classes to study effectively, Woodley (1986) concluded that the high rate of students failing to return to the university must be due, at least in part, to the lack of facility in approaching college level reading and study.

Trent and Medsker (1968), in their study of 10,000 high school students over a six-year period, found that persisters studied harder. Likewise, Astin (1975), in a longitudinal study of 41,000 undergraduates in two- and four-year colleges, found that poor study habits were among the characteristics of dropout prone students. Endo and Harpel (1979) also found that study habits distinguished between persisters and dropouts. Smith (1983) found that dropouts had inadequate study habits; and Weidman (1985) found that dropouts, in contrast to persisters, tended to study alone.

Kimball and Sedlacek (1971) compared older students (36 to 57 years of age) to younger students (18 to 35 years of age) on a number of demographic variables and found that older students tended to study more. Thirty-two percent of the group studied 30 hours or more per week while only 6 percent of the younger group did. Preston (1976) found that two-thirds of the older students in a community college indicated they had to study every evening. Older students often enter college after a lengthy absence from an educational setting and begin college with deficient study skills or lack the confidence in their ability to be successful academically (Mangano & Corrado 1981; Solmon & Gordon 1981). Bean and Metzner (1985) in a review of study skills research were unable to locate any studies which examined older students' ratings of their study skills nor which examined the amount of study time in relation to persistence in college.

Academic advisement. The importance of academic advising in increasing student persistence is well documented (Noel, Levitz, & Saluri 1986). Many researchers (Creamer 1981; Glennen 1975; Habley 1981; Hardee 1970; Louis, Colten, & Demeke 1984; Pascarella & Terenzini 1980; Smith 1983); Trombley & Holmes 1980; Warchal & Southern 1986) agree that a student's academic advisor is in a position to influence the student's process of identification with and integration into the institution. When an advisor presents a student with opportunities and guidance to make sound decisions, students feel beter about themselves and closer to the institution and, therefore, have an increased desire to persist (Trombley & Holmes, 1980)

Habley (1981) underscored the critical link between academic advising and retention. He concluded that the academic advisor was the key in assisting students to explore goals and choose the appropriate educational offerings consistent with those goals. Orientation, counseling and advising were seen as having the second greatest impact on retention (Baldridge, Kemerer, & Green 1982). Ancheta (1980) found no significant difference between traditional and nontraditional students in the use of academic, career and personal counseling. Warchal and Southern (1986) found that academic advising and related matters were very important to adult students. Research has shown that there is a significant relationship between the frequency and quality of student-faculty informal contact and college persistence (Pascarella & Terenzini 1980).

Smith (1983) asked students to indicate what services, if changed, would positively influence their decision to stay. Academic advising was among the most frequently cited answers. Cremer (1981) stressed the importance of advising, stating that academic advising was the cornerstone of retention. According to Creamer, four

components were critical to effective advising: (a) the advisor was ethical; (b) the advisor was honest; (c) the advisor was well informed about programs, courses, requirements, etc.; and (d) the advisor followed a developmental approach . Faculty advisors were in a position to determine the purposes of both the school and learner (Hardee, 1970).

In a study of dropouts and persistence at the University of Massachusetts in Boston, Louis, Colten and Demeke (1984) found that dropouts were especially critical of advising and counseling services. Glennen and Baxley (1985) stressed the importance of intrusive academic advising in student retention. They discovered that those who had dropped out of college: (a) had not received enough individual attention, (b) were confused about degree and program requirements and the ways to meet them; and (c) were disinclined to take advantage of existing services. An earlier study by Glennen (1975) reported that counseling reduced the freshman attrition rate from 45 percent to 6 percent in two years.

Absenteeism. This variable is defined as "the extent to which a student misses class." (Bean & Metzner 1985, p. 501) "It is viewed as an indicator of a student's reduced interaction with the college."(Bean & Metzner 1985, p. 501)

Bean (1981a) found that absenteeism was positively related to dropout for full-time freshman with low academic confidence but it had no significant affect on dropout for the academically confident freshman. Bean (1982b) found that absenteeism was positively related to attrition for students with lower grade averages, but was not a significant factor for students who performed well academically. In a study of the characteristics and perceptions of adult community college students, Preston (1976)

found that they expressed a preference for regular class attendance. Greer (1980) found that older students perceived a high probability that they would have to miss classes because of job and or family responsibilities. Kowalski (1977) reported that students who withdrew had significantly greater absences than students who persisted.

Major certainty. A number of empirical studies provided supporting evidence that a student's degree of certainty about his or her academic major was positively related to persistence (Cope & Hannah 1975; Foote 1980; Greer 1980; Muskat 1979; Preston 1976; Radcliffe & Novak 1985; Rice 1983; and Sanford & Naylor, 1984). Certainty of educational plan (i.e., certainty of major and career objectives) at the time of entry and its relationship to student persistence was the focus of a study by Sanford and Naylor (1984). It was hypothesized that the more certain a student was concerning his or her choice of major and career plans, the more likely he or she was to persist. Sanford and Naylor called that dimension "educational maturity." Two questions were asked: (a) does the certainty of educational plans at the time of entry have a relationship to student retention/persistence; and (b) do students who were educationally mature (i.e., certain of major and career plans) at entry tend to persist at higher rates? Results from the study showed, however, that 79.4 percent of the educationally immature students were still enrolled or had graduated, while only 71.9 percent of the educationally mature students were. The authors suggested that the unexpected result may have been due to the small sample size and the viability of the educational maturity construct.

Course availability. This variable indicates the extent to which students believe that they are able to take the courses they prefer. Factors involved in course availability include whether the courses are offered by the college, are scheduled at times convenient

to the student, and have sufficient enrollment to be offered (Bean & Metzner, 1985, p. 502).

In a survey of two-year college students, Mangano and Corrado (1980) reported that students 25 years of age and older wanted convenient scheduling options, speedy registration procedures, independent study courses and credit for out-of-class experiences. Smallwood (1980) identified the counseling needs of women over 25 and found that they seemed to be primarily concerned with scheduling needs. Stark (1978) conducted a specific survey to review the more important reasons for nonpersistence. The largest concentration of reported reasons included that the desired class was closed and the class of interest was not offered or was not offered at a convenient time. Roesler (1971) found that nonpersisters were dissatisfied with the selection and scheduling of courses. Tweddale (1978) found that, for a large number of part-time students, the location and time scheduled for courses was of considerable concern. Lack of courses being offered was cited by Gorter (1978) as a reason for the withdrawal of part-time students. Johnston (1982) found that students who had withdrawn were dissatisfied with the courses the college was offering. Class cancellations, scheduling and job-related conflicts constituted the largest group of reasons for dropping out (57.9 percent) in a retention study of community college students (Sheldon, 1983). Sheldon concluded that it was not uncommon for students to attempt to do too much in too short of a time span. He felt that there was evidence that class cancellations had an adverse effect on course retention.

Academic Outcomes

After consideration of all the factors previously cited, the strongest research suggests that academic factors remain the most potent and reliable single family of variables in predicting college student persistence. Rossman and Kirk (1970) found significant differences between persisters and nonpersisters in college grades, particularly at the end of the first year in college. Grade performance has been shown to be an important factor in predicting persistence (Aitken 1982; Astin 1975; Bean 1980, 1982a, 1982b, 1985; Hilton 1982.

Academic performance in the first quarter was found to predict enrollment in subsequent quarters (Friedman & Dennet 1985). Herndon (1984) found that persisters had better college grades than nonpersisters. Similar results were found by Weidman (1985). Summerskill (1962) stated that the significant relationship between attrition and first semester grades supported the interpretation that good grades were extremely effective reinforcers to maintain and strengthen a student's academic performance and decrease the chances of dropping out.

Summary of Review of Literature

The variables employed in the Bean and Metzner model (1985) appear to be of value in understanding the dropout process among nontraditional students. In addition, external variables appear to be of particular importance in understanding the factors that influence attrition of the older student. Attrition and persistence of college students continues to be a concern in higher education. With the increasing numbers of adult

students in college, understanding what factors contribute to attrition or persistence is critical.

The implications from the literature suggest further research is needed in the area of attrition of nontraditional students in community colleges. The research for this study is unique because it studies one group of nontraditional students and tracks them for a period of one year. In addition, this study defines those factors that should be strengthened to deter student attrition in community colleges in Georgia, especially in the DeKalb area.

Chapter 3 provides the theoretical framework for this study. It also contains the definitions of the variables and the hypotheses.

CHAPTER 3

Theoretical Framework

This chapter places the research in theoretical context, and defines the operational variables, the relationship among the variables, the null hypotheses, and the limitations of the study. Figure 6 shows the independent, dependent and moderator variables identified with this study.

The theoretical framework for this study was based on the Conceptual Model of Nontraditional Student Attrition advanced by Bean and Metzner in 1985. Briefly, this model attempted to explain the process through which nontraditional students proceeded to decisions of persistence or withdrawal from an institution of higher learning. Basing this research on an earlier study by Fishbein and Ajzen (1975), which held that attitudes led to intention which in turn led to behavior, Bean and Metzner designed a model which contained four sets of variables and two outcomes. Two compensatory effects were also included in the model.

Bean and Metzner (1985) predicted interactions between the sets of academic variables and environmental variables and between academic outcomes/GPA and psychological outcomes. They presented their model as a preliminary one intended to be modified as research efforts are carried out and suggested that the model be used both to identify variables for study at individual institutions and to specify the relationships among elements within it. It was the effect of the environmental and the academic

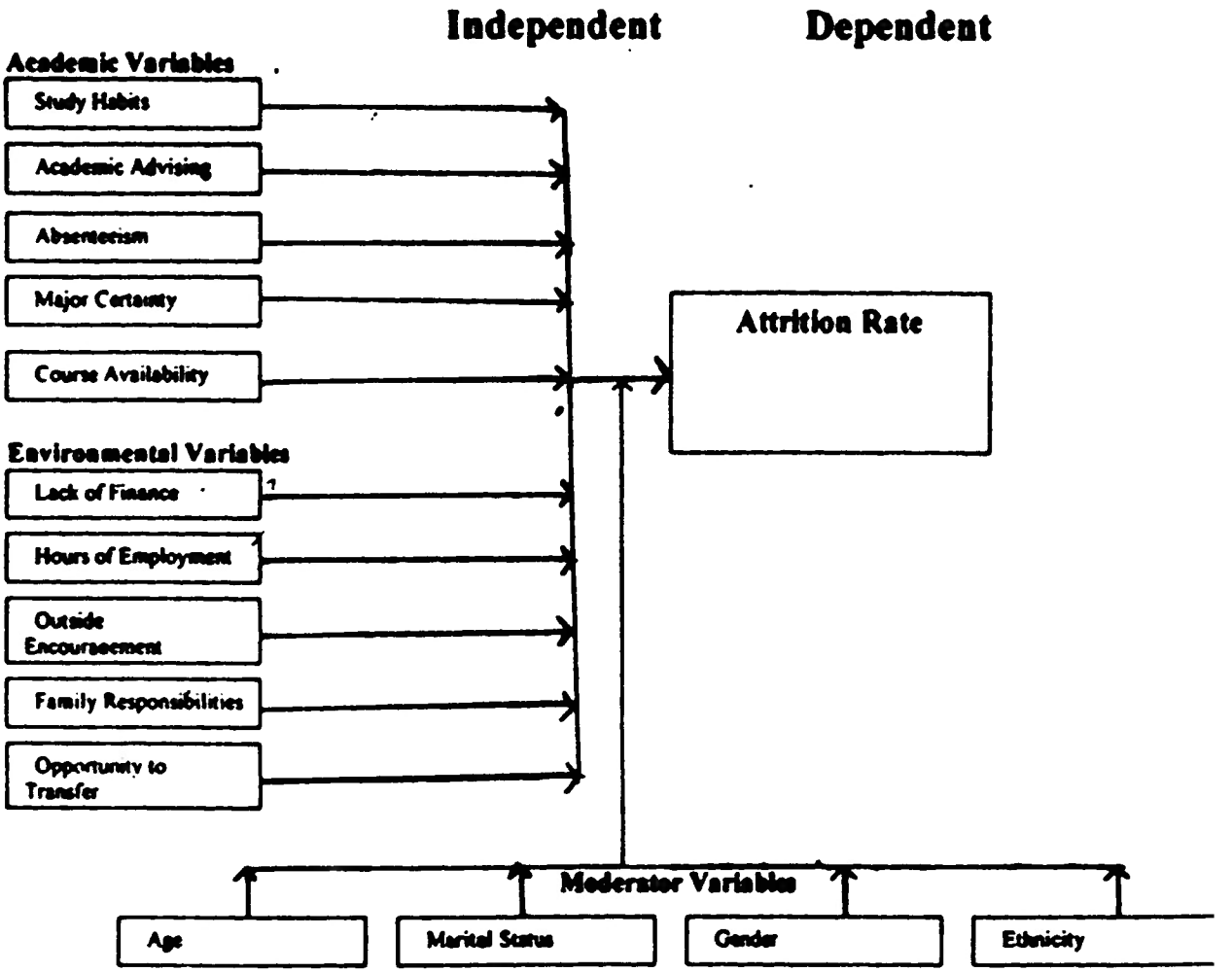

Fig. 6. [A] Figure Representation of the Relationship Among the Variables

variables on the attrition process that provided the basis for this research. Data collected regarding the academic and environmental variables were measured in order to test the validity of the Bean and Metzner (1985) conclusion that the attrition process of nontraditional college students is affected by both external and academic factors.

Presentation and Definition of Variables

The academic and environmental (independent) variables used in this study were acquired from the Bean and Metzner conceptual model of nontraditional student attrition (1985) and are presented and defined in the following sections.

Dependent Variable

Attrition Rate

The attrition rate is identified as the dependent variable, and it is defined as the percentage rate difference between the number of students entering and returning to college for the 1993-94, 94-95 and 95-96 academic years. The attrition rates were 58.45% in 1993-94, 59.37% in 1994-95 and 58.1% in 1995-96.

Independent Variables

Academic Variables

These academic variables were prominent in models of traditional student attrition as indicators of academic integration. These variables were expected to have indirect effects on dropout through GPA; through the psychological outcome variables, especially satisfaction; and through intent to leave.

1. Study Habits – This variable refers to the student's study skills.
2. Academic Advising – This variable refers to the student's advisor for classes.

3. Absenteeism – This variable refers to the extent to which a student misses classes.
4. Major Certainty – This variable refers to the student's degree of sureness about his/her career interests or academic major.
5. Course Availability – This variable indicates the extent to which students believe that they are able to take the classes they need and prefer.

Environmental Variables

Environmental variables are those over which the institution has little control but which might pull the student from the institution. They are presumed to have direct effects on attrition decisions as well as indirect effects on dropout through the psychological outcome variables (Bean & Metzner 1985).

1. Finances – This variable refers to the income of the students and their families.
2. Hours of Employment – This variable refers to the length of time a student works while in school.
3. Outside Encouragement – This variable refers to the extent of support from influential persons (not employed by the college).
4. Family Responsibilities – This variable refers to the number of dependents students see themselves supporting.
5. Opportunity to Transfer – This variable refers to the student's ability to obtain credit for courses taken at one community college and the credits accepted at a four-year college.

Moderator Variables

These variables were not indicated in Bean and Metzner's 1985 model, but are included in this study for they allow one to speculate on how their influence may or may not change the outcome of the study.

1. Age-- This variable reflects the date of birth of each subject
2. Ethnicity-- This variable addresses the student's race.
3. Gender--This variable refers to the student's sex.
4. Marital Status--: This variable refers to whether the student has a spouse.

Relationship Among the Variables

There are three types of variables that apply to all subjects in this study. Technically, the variables being investigated fall into three types, namely, independent, dependent and moderator variables.

In this study, the academic and environmental variables are identified as the independent variables. The attrition rate of the nontraditional student is the dependent variable in this study. In this study, the independent variables (environmental and academic) were investigated to determine the strength of the variables in the attrition of nontraditional students in community colleges.

Independent Variables

The independent variables are those variables that were manipulated by the researcher against the dependent variables, as well as in terms of moderator variables. The ten independent variables are study habits, academic advising, absenteeism, major certainty, course availability, finances, hours of employment, outside encouragement, family responsibilities and opportunity to transfer.

Dependent Variables

The dependent variables are those variables which remain constant are not subject to manipulation by the research (Tuckman, 1994). In this case, the dependent variable is the attrition rate that can change based on various events that may occur at the college or in the students' personal lives.

In addition to the seven demographic variables and the ten independent variables, the students who withdrew were requested to provide data regarding the reasons for leaving school. The data were reported in the findings.

Nontraditional students who enrolled during fall (1993-96) and withdrew before the next year, responded to the ten academic and environmental (independent) variables found in Bean and Metzner's model (1985). The information gathered was compared to the conceptual model used in the framework of this study. This data were processed using correlation and step-wise multiple regressions.

Moderator Variables

According to Borg and Gall (1989), moderator variables aid in differential analysis. They can be used to moderate the predictive validity of tests very effectively. They broaden the scope of analyses, thereby providing additional information from the research. They were used to manipulate the interaction between other variables. The moderator variables in this study were age, gender, ethnicity and marital status.

Background and Defining/Demographic Variables

The demographic variables acquired from Bean and Metzner's Model of Nontraditional Student Attrition (1985) were mentioned in this study only to show the composition of the students and to help us better understand them.

Null Hypotheses

For the purpose of this study, there were 20 null hypotheses that were tested as follows:

1. There is no significant relationship between the study habits and attrition of the nontraditional student.
2. There is no significant relationship between the academic advising and attrition of the nontraditional student.
3. There is no significant relationship between the absenteeism and attrition of the nontraditional student.
4. There is no significant relationship between the major certainty and attrition of the nontraditional students.
5. There is no significant relationship between the course availability and attrition of the nontraditional student.
6. There is no significant relationship between the finances and attrition of the nontraditional student.
7. There is no significant relationship between the hours of employment and attrition of the nontraditional student.
8. There is no significant relationship between outside encouragement and attrition of the nontraditional student.
9. There is no significant relationship between the family responsibilities and attrition of the nontraditional student.

10. There is no significant relationship between the opportunity to transfer to another college and attrition of the nontraditional student.
11. There is no significant relationship between the study habits and attrition of the nontraditional student in terms of age, ethnicity, marital status and gender.
12. There is no significant relationship between the academic advising and attrition of the nontraditional student in terms of age, ethnicity, marital status and gender.
13. There is no significant relationship between the absenteeism and attrition of the nontraditional student in terms of age, ethnicity, marital status and gender.
14. There is no significant relationship between the major certainty and attrition of the nontraditional student in terms of age, ethnicity, marital status and gender.
15. There is no significant relationship between the course availability and attrition of the nontraditional student in terms of age, ethnicity, marital status and gender.
16. There is no significant relationship between the finances and attrition of the nontraditional student in terms of age, ethnicity, marital status and gender.
17. There is no significant relationship between the hours of employment and attrition of the nontraditional student in terms of age, ethnicity, marital status and gender.

17. There is no significant relationship between the hours of employment and attrition of the nontraditional student in terms of age, ethnicity, marital status and gender.
18. There is no significant relationship between the outside encouragement and attrition of the nontraditional student in terms of age, ethnicity, marital status and gender.
19. There is no significant relationship between the family responsibilities and attrition of the nontraditional student in terms of age, ethnicity, marital status and gender.
20. There is no significant relationship between the opportunity to transfer to another college and attrition of the nontraditional student in terms of age, ethnicity, marital status and gender.

Limitations and Assumptions

The limitations and assumptions relate to generalizations of this study, the honesty of the respondents and other factors. The limitations and assumptions follow:

1. This study was conducted in a southern state, so the findings may have little or no applications to other states. The recommendations for changes in policy and administrative practices may have some application to other states.
2. The students used in this study were enrolled at the community college during the fall 1993-96 and withdrew. The findings for this sample may not have application to other groups of nontraditional students enrolled in another state.

3. There were four moderators and ten independent variables included in this study. It is possible that there were additional relevant variables that were not included in this study.
4. The study may have been hindered from the lack of responses from students who withdrew from the college during 1993-96.

Summary of the Theoretical Framework

Some students who struggle academically leave school and others remain in school. Administrators need a key to unlock this mystery! This study used the conceptual model of nontraditional student attrition of Bean and Metzner (1985) to determine why students are leaving college. A primary question regarding all research relates to the feasibility of performing the research based on the availability of data, the availability of resources necessary to perform the research, and realistic time frames. The theoretical framework was based on the belief that sufficient data would be available to locate a sufficient number of nontraditional students to obtain their views, that the researcher had the resources to accomplish the study, and that the time frame of six to eight months was reasonable.

The significance of the theoretical framework was that it enhanced the conceptualization of the research and added to its credibility. This research project reflected realistic objectives. The study addressed a critical problem in Georgia and the findings may result in improved retention rates in community colleges, especially in Georgia.

Chapter 4 focuses on the methods and procedures used in testing the hypotheses. It also describes the setting, the data collection procedures and the test instrument.

CHAPTER 4

Methods and Procedures

The purpose of this study was to examine each of the ten independent variables that were perceived to affect the attrition of nontraditional students in Georgia Perimeter Community College, formerly DeKalb College, in Georgia. This chapter provides details of the methods and procedures used in conducting this research study.

Design of the Study

This study investigated the attrition of nontraditional students in Georgia Perimeter Community Colleges. This investigation was quantitative research. According to Borg and Gall (1993) "Quantitative research acknowledges the presence of individual fluctuations in human behavior, but they also believe that there are general laws that hold across individuals." (Borg and Gall 1993, 24). The research was descriptive because it analyzed and described each of the ten variables that were perceived by students to affect the attrition of nontraditional students in the sample.

The sample consisted of nontraditional students in Georgia Perimeter Community College who were enrolled between fall 1993 and 1996 and withdrew prior to graduation. A sample of the population is provided with respect to the seven demographic variables (age, enrollment status, residence, educational goals, high school performance, ethnicity, and gender) only to establish the composition and characteristics of the student

population to help provide a better understanding of the sample. These demographic data were based on official records of the community college and on the responses provided on a survey instrument that was completed and submitted by the nontraditional students in the study. The study provided a basic statistical review of selected variables that affect attrition. These variables were derived from the academic and environmental variables listed on Bean and Metzner's Conceptual Model of Nontraditional Student Attrition (1985) found in Figure 1.

Description of the Setting

Formerly named DeKalb College, Georgia Perimeter Community College, is a two-year college that opened its first campus in Clarkston in 1964 as Georgia's only public college controlled by a local board of education. The South Campus opened in 1972 and the North Campus in 1979. On July 1, 1986, Georgia Perimeter Community College became a unit of the University System.

Georgia Perimeter Community College provides education to students on five campuses. These campuses are located in Clarkston, Dunwoody, Decatur, Lawrenceville and the Rockdale Center for Higher Education in Conyers. The college provides two-year programs with accessibility, convenience and flexibility in scheduling for a student body that reflects remarkable diversity. Through credit and non-credit programs, the college's sphere of influence touches the lives of 36,000 students each year. With a for-credit enrollment of 16,000, students span the spectrum from native Georgians to internationals from more than 100 different countries.

Georgia Perimeter offers 37 associates of arts and sciences and career programs including such diverse majors as anthropology, drama, agricultural engineering, computer science, pre-pharmacy, urban life and interpreter training. Students find opportunities to serve, fellowship and learn outside the classroom through honor societies, student publications, theater and musical performance groups. Students compete in intercollegiate men's basketball, baseball, soccer, and tennis as well as women's soccer, softball, tennis, and volleyball.

With four campuses in Clarkston, Dunwoody, Decatur, and Lawrenceville and the Rockdale Center for Higher Education in Conyers, Georgia Perimeter Community College fills a crucial role in its various communities as a center for visual and performing arts. Many cultural and educational programs and facilities are extended to the public. The Marvin M. Cole Auditorium at Central Campus is the home of the DeKalb Symphony Orchestra and also hosts visual art exhibits, stage productions and musical theater.

Sampling Procedures

The preliminary selection of subjects was 20 percent of the total nontraditional students who enrolled at DeKalb College between fall 1993 and 1996 and withdrew before completing their program of study. This period was selected because data were needed for students who had already withdrawn from college prior to this study. The 1995-96 academic year was selected as the concluding year because the total data for the 1996-97 school year would not have been available during the survey period of this study. A simple random sampling procedure was used with this investigation. Borg and

Gall (1993) defined a simple random sampling as a group of individuals drawn by a procedure in which all in the defined population have an equal and independent chance of being selected as a member of the sample. In this study, every fifth student was selected from the population.

Working with Human Subjects

Permission to conduct this research was obtained from the Planning Department of the college participating in this investigation. All of the subjects were adults; all subjects were volunteers; and all subjects were guaranteed anonymity and confidentiality so that the participants were not identifiable in any published documents. Students were not required to disclose their names on the surveys. Data were not analyzed in terms of individuals but were treated as group data. The purpose of this process was to maintain the confidentiality of the responses.

Description of the Instruments

In 1985, Bean and Metzner found that no instrument was available to assess the relative contribution of external factors to explain the attrition process for traditional or nontraditional students, so they developed one. A closed-form questionnaire to measure the academic and environmental variables affecting the attrition of nontraditional students was developed by Bean and Metzner. For use in this study, this researcher modified their questionnaire.

The questionnaire included 34 structured items pertaining to each of the five academic variables and to each of the five environmental variables. Other questions were

included to produce additional information relative to work and study habits. The purposes for these data were to provide demographic data of the sample. The results of such questions were included in the analysis of the data in this study, but their effect was not intended to be a part of the testing of the Bean and Metzner model.

It was concluded that the variables described by Bean and Metzner were straightforward and factual in nature. Questions designed to measure these variables were also straightforward and factual.

Validity and Reliability

In order for an instrument to be credible, it must be validated. Borg, Gall and Gall (1993) defined validity as the degree to which a test measures what are purports to measure. Validation of the instrument for this investigation was achieved through the following process.

The first draft of the item pool was submitted to a panel of experts at Clark Atlanta University who evaluated the items in terms of:

1. the format and presentation,
2. content validity (do test items measure the content that they are designed to measure?),
3. concurrent validity (do individual scores on the variables affecting the attrition of nontraditional students test correlate),
4. face validity (does the instrument measure what it purports to measure?),
5. test reliability (are all test items consistent in measuring what the instrument intends to measure?),

6. diction or word choice (are test items clearly stated or expressed?), and

7. sensitivity of test items.

After the initial evaluation, the draft copy of the instrument was revised based on the comments of the evaluators. Several items were removed due to unclear wording. Then the draft was submitted for approval. A pilot study was conducted with a sample of 30 students to establish content and face validity.

Data Collection Procedures

Data for this investigation were collected in the winter of 1998. The researcher secured permission from the college to conduct the study. Once permission was granted, the researcher mailed questionnaires to the sample. To promote a high response rate, special envelopes and stationery were printed to reflect an "Educational Research Project." Three monetary gifts were given away at a special drawing to those persons who returned their forms to the researcher by the designated date. An initial mailing, meticulously prepared, was mailed to introduce the study, to give the subjects a questionnaire to complete and return to author in a stamped, self-addressed envelope. Subjects were informed that the researcher would be calling them in three weeks if the questionnaires were not returned.

Subjects who did not return the surveys were contacted by telephone using the telephone information listed in the student files. That list was expected to be nearly 100 percent accurate. In the event any telephone numbers were incorrect, efforts were made to obtain correct telephone numbers. Those efforts included document review of records maintained by DeKalb Perimeter College's admission office and checking the Atlanta

telephone directory. If new telephone numbers were obtained, then the subjects were telephoned again. Calls were made primarily during the evening hours from 7 p.m. until 9 p.m.

Upon receipt of the data, the questionnaires were then reviewed for legibility. Various audit procedures were performed to ensure the accuracy of the data. Usable questionnaires were removed from the collection of questionnaires and processed for the study. All surveys were coded for statistical analysis.

Statistical Applications

As mentioned earlier, this study examined the variables affecting the attrition of nontraditional students in Georgia Perimeter Community College. Data were collated and analyzed using correlation and step-wise multiple regressions analysis. Graphs and descriptive statistics were also utilized where appropriate.

Data collected for this study were used to determine whether or not and to what extent relationships existed between the independent and dependent variables. To achieve this, the Pearson r statistical tool was employed. According to Gay (1994),

> The Pearson r is the most appropriate measure or coefficient of correlation when the sets of data to be correlated represent either interval or ratio scales. The Pearson r takes into account each and every score, and it is the most stable measure of correlation. A correlation coefficient is a decimal number between .00 and +1.00, or .00 and –1.00, which indicates the degree to which the variables are related. If the coefficient is near +1.00 (approximately .75+), then the variables are positively correlated. If the coefficient is closer to .00, the variables are not related. On the other hand, if the coefficient is closer to--1.00, then the variables are inversely or negatively correlated. (Gay 1994, 403-404)

In this study, the Pearson r was the most appropriate coefficient for determining if the relationship exists.

In addition to the Pearson r, the investigation employed the step-wise multiple regression analysis. According to Kleinbaum, Kupper and Muller (1993),

> Stepwise regression is a modified version of forward regression that permits reexamination, at every step, of the variables incorporated in the model in previous steps. A variable that entered at an early stage may become superfluous at a later stage because of its relationship with other variables now in the model. To check on this possibility, at each step, a partial F test for each variable presently in the model is made as though it were the most recent variable entered, irrespective of its actual entry point into the model. That variable with the smallest nonsignificant partial F statistic (if there is such a variable) is removed, the model is refitted with the remaining variables, the partial F's are obtained and similarly examined and so on. The whole process continues until no more variables can be entered or removed (Kleinbaum, Kupper and Muller 1993, 326).

In addition to the Pearson r and stepwise regressions, this investigation also employed some descriptive statistics like the mean and the standard deviation to further highlight the analysis of data. Again, Gay (1994) defined the mean as "the arithmetic average of a set of scores and the standard deviation as the most stable measure of variability which takes into account each and every score in a distribution" (Gay 1994, 393). The researcher used the mean because it provided a convenient way of describing a set of data with a single number. Also, the standard deviation, the most appropriate measure of variability, was applied to explain how widely spread and variable the scores were.

Summary of Methods and Procedures

This chapter discussed the research method and procedures that were used for this study. This study used the methodology of survey research to determine what factors affected the retention rate of nontraditional students in Georgia Perimeter Community College, according to the academic and environmental factors presented by Bean and

Metzner. The instrument for this study was developed by Bean and Metzner and modified by the researcher. Samples for this study included nontraditional students who had withdrawn from Georgia Perimeter Community College, and selection was based on the random sampling technique. A panel of experts from Clark Atlanta University evaluated the instrument for validity and reliability. Data collected for this study were analyzed by the researcher using some descriptive statistics, graphs, the mean, standard deviation, appropriate correlation and regression statistical techniques.

CHAPTER 5

Analysis of the Data

Introduction

The intent of this investigation was to explore the variables affecting the retention rate of nontraditional students in Georgia Perimeter Community College. The variables identified were: (a) study habits, (b) academic advising, (c) absenteeism, (d) major certainty, (e) course availability, (f) student finances (g) hours of employment, (h) outside encouragement, (i) family responsibilities and (j) opportunity to transfer. Moderating variables included age, marital status, gender and ethnicity. Surveys were used to gather data for this study and the Statistical Package for the Social Sciences (SPSS) was used to analyze the data.

This chapter examines and analyzes data related to the 20 hypotheses outlined in Chapter 3. The findings of the data analysis are presented in tabular format along with accompanying narratives. The hypotheses are reviewed and were accepted or rejected based on the significance of outcomes at the .05 level or above.

During the 1993-96 academic years, the Georgia Perimeter Community College enrolled 4,323 in 1993, 4,303 in 1994 and 4,282 in 1995 for a total of 12,908 freshmen during the fall semesters. In 1993, the number of nontraditional students who did not return to college the next semester was 2,527; in 1994, the number of nontraditional students who did not return to college the next semester was 2,555; and in 1995, the

number of students who did not return to school the next semester was 2,488. A total of 7,570 nontraditional students did not return to college. Approximately 20 percent of the nontraditional students who did not return to college (1,514) composed the sample for this study.

Questions regarding ten independent variables and four moderator variables were mailed to over 1,514 nontraditional students between January and March 1999. Questionnaires and self-addressed, stamped envelopes for return were mailed and accompanied by letters informing former students of the intent of this study and soliciting their participation. A copy of that letter is included in the Appendix. During all the distributions of surveys, an equal number of surveys were sent to males and females. It is also worth noting that since the survey asked several personal questions, some participants choose not to respond to some questions, which made the number of responses fluctuate.

After much encouragement and multiple survey distributions, 307 students returned completed surveys for a response rate of more than 20 percent, which was an improvement over the initial response rate. Since the participation in the survey was strictly voluntary, the researcher could not pressure participants to return completed questionnaires. Also, since the mail survey technique was used, and because the questionnaire was somewhat personal, a number of issues potentially hindered a response. The smallness of sample size might have affected the results of the data because a greater degree of error is associated with a small sample size. The final sample size also resulted in data being combined to facilitate meaningful analytical treatment.

Table 2 provides a description of the sample of the nontraditional students who participated in the study according to their subgroups. Most of the students in the sample were between the ages of 19 and 24; they attended school primarily during the day. Over 50 percent of the students were enrolled part-time or on weekends, and 49.5 percent of the students were full-time. More than 50 percent of the students lived on their own. The majority of the students were interested in transferring to another college. The sample reflected that the students did not leave school because of poor academic performance, since more than 40 percent of the students earned the grade of "B".

Table 2 also reveals that the sample was primarily made up of single, African-American females. Since the participants in this survey were strictly voluntary and the researcher could not pressure the participants to return completed questionnaires, the smallness in sample size for this ethnic group may produce a hidden bias. This means that, in reality, one may not actually measure what was intended. Care must be taken to deal with all units or subjects in the exact same way so that no conscious or unconscious preferential treatment or selection can occur.

Twenty hypotheses were generated to guide this investigation and each hypothesis sought to establish the existence of a relationship between the stated variables. To determine if correlations existed between attrition and the independent variables, the Pearson r correlation technique was used. The effects of the moderator variables on these correlations were also tested using the Pearson r. Descriptive statistics, such as the mean and standard deviation, were also employed to further illuminate the analysis of data. The results of these computations are provided in Table 3.

Table 2

DISTRIBUTION OF DEMOGRAPHIC VARIABLES

Variables	Number	Percent
Age		
18 and older	18	5.9
19-24	153	50.0
25-34	81	26.5
35-44	38	12.4
45 and older	16	5.2
Total – Missing (1)	306	100.0
Enrollment Status		
Day	176	58.3
Evening	51	16.9
Weekend	32	10.6
4.00 (Day & Evening)	9	3.0
5.00 (Evening & Weekend)	21	7.0
6.00 (Day & Weekend)	12	4.0
7.00 (Day &	1	.3
Total – Missing (5)	302	100.0
Class Load		
Full-time	149	49.5
Part-time/Weekend	152	50.5

(Table 2 Continued) Variable	Number	Percent
Total – Missing (6)	301	100.0
Residence		
Own House	68	22.4
Parent's home	124	40.8
Rent room/apartment	103	33.9
Other	9	3.0
Total- - Missing (3)	304	100.0
Educational Goals		
Associate degree	103	33.9
Vocational/technical Program	36	11.8
Transfer to another institution	105	34.5
Certification (initial or renewal)	7	2.3
Self-improvement/pleasure	9	3.0
Job-related training	10	3.3
Other	34	11.2
Total-- Missing (3)	304	100.0
GPA		
3.50-4.00	60	20.5
3.00-3.49	122	41.6
2.50-2.99	74	25.3

(Table 2 Continued) Variable	Number	Percent
2.00-2.49	32	10.9
1.50-1.99	5	1.7
Total – Missing (14)	293	100.0
Ethnicity/Race		
African-American	152	50.5
American Indian or Alaskan Native	2	.7
Asian or Pacific Islander	26	8.6
Caucasian/White	101	33.6
Hispanic	7	2.3
Other	13	4.3
Total – Missing (6)	301	100.0
Gender		
Female	189	62.2
Male	115	37.8
Total – Missing (3)	304	100.0
Marital Status		
Married	49	16.2
Divorced	13	4.2
Single (living alone)	169	55.2
Co-habitating (significant other)	32	10.5
Other	43	14.1
Total – Missing (1)	306	100.0

The Likert scale format was used to represent the responses from the participants. The scoring system used was as follows:

Value	Response
1.0	Never
2.0	Seldom
3.0	Almost Always
4.0	Always

The mean was used to describe the average of a group of numbers. Standard deviation is one of the variations most often considered, which is the square root of S^2. In this study, the standard deviation described the responses as they deviated from the mean.

Table 3

MEAN SCORES AND STANDARD DEVIATION OF VARIABLES

	Variables	N	Mean	Standard deviation
1.	Study Habits	303	3.7178	.9361
2.	Academic Advising	287	2.8397	1.0710
3.	Absenteeism	306	1.2941	.6312
4.	Major Certainty	303	2.4972	.6418
5.	Course Availability	288	2.6233	.6636
6.	Student Finances	304	2.8882	.8476
7.	Hours of Employment	307	3.4593	1.1437
8.	Outside Encouragement	286	3.2238	.5236
9.	Family Responsibilities	306	3.2680	.8954
10.	Goals (completed education at this school)	303	3.4719	.9959

Note: 1.000=never; 2.000=seldom; 3.000=Almost Always; 4.000=Always

The mean score for each variable represents the students' responses in relationship to the Likert-type scale. Each variable mean score had a range of responses. The Likert scale mean scores for the variables were then analyzed using the following ranges:

Mean Score Range	Response
1.00 to 1.50	Never
1.51 to 2.50	Seldom
2.51 to 3.50	Almost Always
3.51 to 4.00	Always

A visual inspection of Table 3 reveals that the mean scores for the variables ranged from a low of 1.2941 (Never) for Absenteeism to a high of 3.7178 (High) for the variable Study Habits. Following are the findings for each of the ten variables.

The Study Habits mean of 3.7178 with a standard deviation of .9361 suggests that the average student indicated that they Always had time to study, with most of the responses varying between Almost Always and Always. There were two questions to this section.

Academic Advising had a mean of 2.8397 with a standard deviation of 1.0710. This suggests that the average student insinuated that he/she Almost Always was able to meet with an adviser, when assistance was needed. Most of the responses ranged between Seldom and Almost Always. The construct academic advising had five questions.

Absenteeism had a mean of 1.2941 with a standard deviation of .6312. The average student indicated that he/she Never missed classes, and the total responses fluctuated between Never and Seldom. The variable had one question.

Major Certainty had a mean of 2.4972 with a standard deviation of .6418. This suggests that the average student indicated that he/she was seldom sure of which program

of study to pursue. Most of the responses fluctuated between Seldom and Almost Always. The construct had three questions.

Course Availability had a mean of 2.6233 with a standard deviation of .6636. The average student stated that he/she Almost Always could obtain the courses he/she wished to enroll. The majority of the responses varied between Seldom and Almost Always. The variable course availability had two questions.

Student Finances had a mean score of 2.8882 with a standard deviation of .8476. It suggests that the average student Almost Always had resources available for college. According to Likert's scale, most of the responses fluctuated between Seldom and Always. The variable student finances had two questions.

Hours of Employment had a mean of 3.4593 with a standard deviation of 1.1437. This suggests that the average student Almost Always had problems with work conflicts. Likert's scale shows that most of the responses varied between Seldom and Always. The variable had two questions.

The Outside Encouragement mean score of 3.2238 with a standard deviation of .5236 showed that the average student Almost Always received encouragement from a significant other. Likert's scale showed that most of the responses ranged between Always and Almost Always. The construct outside encouragement had three questions.

Family Responsibilities had a mean of 3.2680 with a standard deviation of .8954, which suggests that the average student indicated that he/she Almost Always had family responsibilities to manage while attending college. The majority of the responses varied between Always and Seldom. The variable had two questions.

Opportunity to Transfer had a mean of 3.4719 with a standard deviation of .9959. This suggests that the average student indicated that he/she seldom had an opportunity to transfer to another college. Most of the responses varied between Seldom and Always. The construct had one question.

Analysis in Terms of Hypotheses

For the purpose of this study, 20 null hypotheses were tested. The results of these tests are presented and analyzed in the following paragraphs. A Pearson product – moment coefficient ® was used to compute significant relationships between the attrition of nontraditional students and the independent variables in this study. The results are displayed in the tables that follow. It is important to note that the results of the data were originally presented on a correlation matrix, however, in order to enhance the presentation of data relative to the hypotheses posed, the results are displayed in a manner different from their original matrix.

Hypothesis 1

Ho_1: There is no significant relationship between study habits and attrition of the nontraditional student.

Table 4

CORRELATION COEFFICIENT BETWEEN ATTRITION AND STUDY HABITS

Attrition of Nontraditional Students Vs Study Habits	r	Significance of r
	.074	.198

Significant at $p<.05$.

The coefficient, .074, is not significant at the .05 level and indicates that there is no significant relationship between study habits and attrition of the nontraditional student. Thus, Hypothesis 1 was accepted.

Hypothesis 2

Ho_2: There is no significant relationship between academic advising and attrition of the nontraditional student.

There was no relationship between academic advising and attrition of the nontraditional student. The results of this test are shown in Table 5. The obtained correlation coefficient of -.072 reveals that there is no significant relationship at the .05 level between the academic advising and attrition of the nontraditional student. Hypothesis 2 was, therefore, accepted.

Table 5

CORRELATION COEFFICIENT BETWEEN ATTRITION AND ACADEMIC ADVISING

Attrition of Nontraditional Students Vs Academic Advising	r	Significance of r
	-.072	.226

Significant at $p<.05$.

Hypothesis 3

Ho_3: There is no significant relationship between absenteeism and attrition of the nontraditional student.

Table 6 displays the results of the Pearson product–moment correlation coefficient for absenteeism and the attrition of the nontraditional student. In this case, the r-value of .111 was not significant at the .05 level, hence, Hypothesis 3 was accepted.

Table 6

CORRELATION COEFFICIENT BETWEEN ATTRITION AND ABSENTEEISM

Attrition of Nontraditional Students Vs Absenteeism	r	Significance of r
	.111	.053

Significant at $p<.05$.

Hypothesis 4

Ho_4: There is no significant relationship between major certainty and attrition of the nontraditional students.

A correlation coefficient of .115 was found between the major certainty and attrition of the nontraditional students, as illustrated in Table 7. This coefficient was significant at the .045 level indicating that there is a significant correlation between major certainty and attrition of the nontraditional student according to the perception of the nontraditional students. Thus, Hypothesis 4 was rejected.

Table 7

CORRELATION COEFFICIENT BETWEEN ATTRITION AND MAJOR CERTAINTY

Attrition of Nontraditional Students Vs Major Certainty	r	Significance of r
	.115*	.045

*Significant at $p<.05$.

Hypothesis 5

Ho_5: There is no significant relationship between the course availability and attrition of the nontraditional student.

Hypothesis 5 was tested using Pearson product-moment correlation coefficient. The resulting r-value of -.032, which is significant at the .589 level, is illustrated in Table

8. There is no significant relationship between course availability and attrition of the nontraditional student. Hypotheses 5 was, therefore, accepted.

Table 8

CORRELATION COEFFICIENT BETWEEN ATTRITION AND COURSE AVAILABILITY

Attrition of Nontraditional Students Vs Course Availability	r	Significance of r
	-.032	.589

*Significant at p<.05.

Hypothesis 6

Ho_6: There is no significant relationship between finances and attrition of the nontraditional student.

Again, the Pearson product–moment correlation coefficient was used to test this hypothesis. Table 9 illustrates a calculated r-value of .055. This coefficient was not statistically significant at level .05. Thus, Hypothesis 6 was accepted.

Table 9

CORRELATION COEFFICIENT BETWEEN ATTRITION AND FINANCES

Attrition of Nontraditional Students Vs Financing	r	Significance of r
	.055	.340

Significant at p<.05.

Hypothesis 7

Ho_7: There is no significant relationship between the hours of employment and attrition of the nontraditional student.

Hypothesis 7 was also tested using Pearson product-moment correlation coefficient. The resulting r-value is illustrated in Table 10.

Table 10

CORRELATION COEFFICIENT BETWEEN ATTRITION AND HOURS OF EMPLOYMENT

Attrition of Nontraditional Students Vs Hours of Employment	r	Significance of r
	-.081	.154

Significant at $p<.05$.

When compared to a table value, the r value -.081, was not significant at the .05 level of significance. Consequently, Hypothesis 7 was also accepted.

Hypothesis 8

Ho_8: There is no significant relationship between outside encouragement and attrition of the nontraditional student.

The results for this test are displayed in Table 11.

Table 11

CORRELATION COEFFICIENT BETWEEN ATTRITION AND OUTSIDE ENCOURAGEMENT

Attrition of Nontraditional Students Vs Outside Encouragement	r	Significance of r
	.084	.156

Significant at $p<.05$.

According to Table 11, the coefficient of .084 did not yield a statistical significance at the .05 level. Thus, Hypothesis 8 was accepted.

Hypothesis 9

Ho_9: There is no significant relationship between the family responsibilities and attrition of the nontraditional student.

An examination of Table 12 shows the correlation coefficient for family responsibilities and attrition to be -.047, which is not significant at the .05 level. Thus, Hypothesis 9 was accepted.

Table 12

CORRELATION COEFFICIENT BETWEEN ATTRITION AND FAMILY RESPONSIBILITIES

Attrition of Nontraditional Students Vs Family Responsibilities	r	Significance of r
	-.047	.417

Significant at $p<.05$.

Hypothesis 10

Ho_{10}: There is no significant relationship between the opportunity to transfer to another college and attrition of the nontraditional student.

As with previous hypotheses, the r was computed to test Hypothesis 10 and the results are set out in Table 13.

Table 13

CORRELATION COEFFICIENT BETWEEN THE ATTRITION AND THE OPPORTUNITY TO TRANSFER TO ANOTHER COLLEGE

Attrition of Nontraditional Students Vs Opportunity to Transfer	R	Significance of r
	-.013	.825

Significant at $p<.05$.

The results given on Table 13 indicate that there is no significant relationship between the opportunity to transfer to another college and attrition of the nontraditional student. The correlation coefficient of -.013 between attrition of nontraditional students and the opportunity to transfer to another college was not significant at the .05 level. Hypothesis 10 was accepted.

Hypothesis 11

Ho_{11}: There is no significant relationship between the study habits and attrition of the nontraditional student in terms of (a) age, (b) ethnicity, (c) gender and (d) marital status.

Table 14 provides a summary of the r-values regarding the relationship between study habits and attrition of the nontraditional student in terms of each of the moderator variables, namely, (a) age, (b) ethnicity, (c) gender and (d) marital status.

The results in Table 14 show the following coefficients: (a) age = -.371*, . (b) ethnicity/race = 126, (c) gender = -.009 (d) marital status = .785. The r-values for (a) age, (b) ethnicity and (d) marital status show a significant relationship in this hypothesis. Therefore, Hypothesis 11 was rejected for (a) age, (b) ethnicity and (d) marital status. It was accepted for (c) gender.

It seems that the younger students spent more time studying than the older students did. As it relates to ethnicity/race in terms of study habits, the demographic data showed that more than 50 percent of the sample was African-American with the next largest representation being Caucasians at 33 percent. This distribution among ethnicity/race would influence the interpretation that showed that African-Americans

studied more. As it relates to marital status and study habits, it appears that if the student is married, the student is more likely to spend more time studying than the single or divorced student.

Table 14

CORRELATION COEFFICIENT BETWEEN STUDY HABITS AND ATTRITION IN TERMS OF AGE, ETHNICITY, MARITAL STATUS AND GENDER

Attrition of Nontraditional Students	r	Significance of r
Study Habits Vs Age	-.371*	.000
Study Habits Vs Ethnicity/Race	.126*	.029
Study Habits Vs Gender	-.009	.877
Study Habits Vs Marital Status	.785**	.000

*Significant at $p<.05$.
**Significant at $p<.01$.

Hypothesis 12

Ho_{12}: There is no significant relationship between academic advising and attrition of the nontraditional student in terms of (a) age, (b) ethnicity, (c) gender and (d) marital status.

The correlation coefficient for this hypothesis is illustrated in Table 15. Table 15 shows that the data for the relationship between the academic advising and attrition of the nontraditional student in terms of (a) age, (b) ethnicity, and (d) marital status yielded coefficients of -.026, -.025, -.069, respectively, none of which were significant at the .05 level of significance. Therefore, the null hypothesis was accepted for (a) age, (b) ethnicity, and (d) marital status.

The coefficient (.133*) for gender was significant Hence, the null hypothesis was rejected for gender.

It seems that male students are more likely to seek academic advisement than female students.

Table 15

CORRELATION COEFFICIENT BETWEEN ACADEMIC ADVISING & ATTRITION IN TERMS OF AGE, ETHNICITY, MARITAL STATUS AND GENDER

Attrition of Nontraditional Students	R	Significance of r
Academic Advising Vs Age	-.026	.655
Academic Advising Vs Ethnicity/Race	-.025	.677
Academic Advising Vs Gender	.133*	.025
Acadmic Advising Vs Marital Status	-.069	.246

*Significant at $p<.05$.

Hypothesis 13

Ho_{13}: There is no significant relationship between absenteeism and attrition of nontraditional students in terms of (a) age, (b) ethnicity, (c) gender and (d) marital status.

In order to determine the statistical significance, if any, between absenteeism and attrition of the nontraditional student in terms of (a) age, (b) ethnicity, (c) gender and (d) marital status, the Pearson product-moment correlation was computed. The results are given in Table 16. The r for (a) age -.001, had a negative relationship which shows that the older the student, the more they disagreed with this hypothesis. The coefficients of

-.099 for (b) ethnicity,. -.023 for (c) gender and .013 for (d) marital status indicates no significant relationship between the variables. Thus, Hypothesis 13 was accepted.

Table 16

CORRELATION COEFFICIENT BETWEEN ABSENTEEISM AND ATTRITION IN TERMS OF AGE, ETHNICITY, MARITAL STATUS AND GENDER

Attrition of Nontraditional Students	"r"	Significance of "r"
Absenteeism Vs Age	-.001	.986
Absenteeism Vs Ethnicity/Race	-.099	.086
Absenteeism Vs Gender	-.023	.687
Absenteeism Vs Marital Status	.013	.820

**Significant at the 0.01.

Hypothesis 14

Ho_{14}: There is no significant relationship between major certainty and attrition of the nontraditional student in terms of (a) age, (b) ethnicity, (c) gender and (d) marital status.

Here, also, the r was calculated to test this hypothesis and the results are displayed in Table 17. The correlation coefficients obtained were .046 for (a)- age, -.090 for (b) - ethnicity/race, -.066 for (c) gender and -.074 for (d) marital status. All of these coefficients proved that the sample of students in this study found the relationship between the major certainty and attrition of the nontraditional student in terms of age, ethnicity, marital status and gender had no significant correlation. Thus, the hypothesis was accepted.

Table 17

CORRELATION COEFFICIENT BETWEEN MAJOR CERTAINTY & ATTRITION IN TERMS OF AGE, ETHNICITY, MARITAL STATUS AND GENDER

Attrition of Nontraditional Students	"r"	Significance of r
Major Certainty Vs Age	.046	.430
Major Certainty Vs Ethnicity/Race	-.090	.121
Major Certainty Vs Gender	-.066	.251
Major Certainty Vs Marital Status	-.074	.202

**Significant at $p<.01$.

Hypothesis 15

Ho_{15}: There is no significant relationship between course availability and attrition of the nontraditional student in terms of (a) age, (b) ethnicity, (c) gender and (d) marital status.

Again, the Pearson r correlation coefficient was computed to ascertain a statistical significance between course availability and attrition of the nontraditional student in terms of age, ethnicity, marital status and gender. The results provided in Table 18 reveal that there was no significant relationship between course availability and attrition in terms of (a) age, (b) ethnicity, (c) gender and (d) marital status. Hypothesis 15 was accepted.

Table 18

CORRELATION COEFFICIENT BETWEEN COURSE AVAILABILITY & ATTRITION IN TERMS OF AGE, ETHNICITY, MARITAL STATUS AND GENDER

Attrition of Nontraditional Students	r	Significance of r
Course Availability Vs Age	-.103	.082
Course Availability Vs Ethnicity/Race	.060	.315
Course Availability Vs Gender	.091	.125
Course Availability Vs Marital Status	-.022	.706

**Significant at p<.01.

Hypothesis 16

Ho_{16}: There is no significant relationship between finances and attrition of the nontraditional student in terms of (a) age, (b) ethnicity, (c) gender and (d) marital status.

The results in Table 19 displays a coefficient of .006 for age, .010 for ethnicity, -.027 for gender and -.123 for marital status. Correlations in terms of Marital Status was significant at the .05 level. These results reveal that nontraditional students did perceive finances and attrition in terms of age, ethnicity, and gender to be significant. Because of these results among the subsamples, Hypothesis 16 was accepted for (a) age, (b) ethnicity and (c) gender. Also, Table 19 shows that Hypothesis 16 was rejected for (d) marital status because it was significant. These data show an inverse relationship between finances and attrition of the nontraditional student in terms of marital status. This means that the finances of the married student are more likely to better than the finances for the single or divorced student.

Table 19

CORRELATION COEFFICIENT BETWEEN FINANCES & ATTRITION IN TERMS OF AGE, ETHNICITY, MARITAL STATUS AND GENDER

Attrition of Nontraditional Students	r	Significance of r
Finances Vs Age	.006	.923
Finances Vs Ethnicity/Race	.010	.868
Finances Vs Gender	-.027	.640
Finances Vs Marital Status	-.123*	.032

*Significant at $p<.05$.
**Significant at $p<.01$.

Hypothesis 17

Ho_{17}: There is no significant relationship between the hours of employment and attrition of the nontraditional student in terms of (a) age, (b) ethnicity, (c) gender and (d) marital status.

An examination of Table 20 shows the correlation coefficient for this hypothesis. Table 20 shows that the data for nontraditional student relationship between hours of employment and attrition in terms of (a) age, (b) ethnicity, (c) gender and (d) marital status yielded Pearson product-moment correlation coefficients of .115 for age,.-.022 for ethnicity/race, .002 for gender and -.069 for marital status. None were significant at the .05 level. Therefore, Null Hypothesis 17 was accepted for (b) ethnicity/race, (c) gender and (d) marital status. Hence, the null hypothesis was rejected for (a) age. It seems that the older the student, the more hours they worked, which affected the attrition of the nontraditional student.

Table 20

CORRELATION COEFFICIENT BETWEEN HOURS OF EMPLOYMENT & ATTRITION IN TERMS OF AGE, ETHNICITY, MARITAL STATUS AND GENDER

Attrition of Nontraditional Students	r	Significance of r
Hours of Emp. Vs Age	.115*	.045
Hours of Emp. Vs Ethnicity	-.022	.710
Hours of Emp.s Vs Gender	.002	.977
Finances Vs Marital Status	-.069	.226

* Significant at p<.05.
**Significant at p<.01.

Hypothesis 18

Ho_{18}: There is no significant relationship between outside encouragement and attrition of the nontraditional student in terms of (a) age, (b) ethnicity, (c) gender and (d) marital status.

The correlation coefficient for this hypothesis is illustrated in Table 21. The r for age was -.016; for ethnicity/race was -.006; for gender was –.054, and for marital status was .023. Null Hypothesis 18 was accepted.

Table 21

CORRELATION COEFFICIENT BETWEEN OUTSIDE ENCOURAGEMENT & ATTRITION IN TERMS OF AGE, ETHNICITY, MARITAL STATUS AND GENDER

Attrition of Nontraditional Students	"r"	Significance of "r"
Outside Encourage. Vs Age	-.016	.789
Outside Encourage. Vs Ethnicity/Race	-.006	.927
Outside Encourage. Vs Gender	-.054	.360
Outside Encourage. Vs Marital Status	.023	.702

**Significant at p<.01.

Hypothesis 19

Ho_{19}: There is no significant relationship between family responsibilities and attrition of the nontraditional student in terms of (a) age, (b) ethnicity, (c) gender and (d) marital status.

The correlation coefficient for this hypothesis is illustrated in Table 22. Table 22 shows that the coefficients for the relationship between family responsibilities and attrition of the nontraditional student in terms of (a) age, (b) ethnicity, (c) gender and (d) marital status were: -.165 for age, .085 for ethnicity, and .047 for gender and .148 for marital status. These results were significant at the .05 level. Therefore, Null Hypothesis 19 was accepted for (b) ethnicity and (c) gender. Hence, the null hypothesis was rejected for (a) age and (d) marital status.

It seems that age and marital status of nontraditional students influenced their ability to stay in school. Also, an inverse relationship occurred with age. As it relates to the relationship between family responsibilities and attrition in terms of age, the younger students had more family responsibilities than the older students. As it relates to marital status, it seems that single students had more responsibilities than married students. It might also tend to identify that the nontraditional student population who became parents at an early age attended this type of school.

Table 22

CORRELATION COEFFICIENT BETWEEN FAMILY RESPONSIBILITIES AND ATTRITION IN TERMS OF AGE, ETHNICITY, MARITAL STATUS AND GENDER

Attrition of Nontraditional Students	r	Significance of r
Family Responsibilities Vs Age	-.165**	.004
Family Responsibilities Vs Ethnicity/Race	.085	.142
Family Responsibilities Vs Gender	.047	.411
Family Responsibilities Vs Marital Status	.148**	.009

**.Significant at p<.01.

Hypothesis 20

Ho_{20}: There is no significant relationship between the opportunity to transfer to another college and attrition of the nontraditional student in terms of (a) age, (b) ethnicity, (c) gender and (d) marital status.

The correlation coefficient for this hypothesis is illustrated in Table 23. Table 23 shows that the coefficients were: –.120 for age, .148 for ethnicity/race, -.045 for gender and -.011 for marital status. Hypothesis 20 was accepted for (c) gender and (d) marital status. The coefficients for (a) age and (b) ethnicity/race were significant. In light of these results, Hypothesis 20 was rejected for (a) age and (b) ethnicity/race.

Hypotheses 19 and 20 support each other and they go hand in hand. Age and ethnicity influence the relationship between the opportunity to transfer to another college and attrition of the nontraditional student. Age and ethnicity directly relate to the attrition of nontraditional students. An inverse relationship exists for the relationship between the

opportunity to transfer to another college and attrition in terms of age. It means that the younger students have more of an opportunity to transfer to another college than the older students. Also, at the onset, it may be true that the younger students intend to transfer to another college after completing this school. According to ethnicity/race and the opportunity to transfer, it appears that Caucasians and Hispanics tend to have more of an opportunity to transfer to another college than other races.

Table 23

CORRELATION COEFFICIENT BETWEEN OPPORTUNITY TO TRANSFER TO ANOTHER COLLEGE AND ATTRITION IN TERMS OF AGE, ETHNICITY, MARITAL STATUS AND GENDER

Attrition of Nontraditional Students	r	Significance of r
Opportunity to Transfer Vs Age	-.120*	.038
Opportunity to Transfer Vs Ethnicity/Race	.148*	.010
Opportunity to Transfer Vs Gender	-.045	.439
Opportunity to Transfer Vs Marital Status	-.011	.850

**.Significant at p<.01.
*Significant at p<.05.

Analysis in Terms of Regressions

For the purpose of this study, the ten independent variables were mounted against attrition, the dependent variable, using step-wise multiple regression in order to rank the variables in order of most importance. Step-wise is a modified version of forward regression that permits reexamination, at every step, of the variables incorporated in the model in previous steps. A variable that entered at an early stage may become superfluous at a later stage because of its relationship with other variables now in the

model. To check on this possibility, at each step a partial F test for each variable presently in the model was made as though it were the most recent variable entered, irrespective of its actual entry point into the model. The variable with the smallest nonsignificant partial F statistic was (if there was one) removed, the model was refitted with the remaining variables; the partial F's were obtained and similarly examined again. Table 24 shows the results of the stepwise multiple regression for the ten independent variables and attrition.

In Table 24, the data show that in the stepwise regression model, major certainty had the greatest influence of the ten independent variables. The loading was significant for major certainty, but not the other nine independent variables as shown in Table 25. The data show that in the stepwise multiple regression model, the nine independent variables listed were excluded variables using the stepwise multiple regression and were not considered predictors in the model.

Summary

Data related to the twenty hypotheses were presented in this chapter. Each was rejected or not rejected based on the data collected from the 307 nontraditional students who completed the student surveys. As it relates to Hypothesis 4, the correlation showed that nontraditional students indicated that there was a significant relationship between major certainty and attrition. It seems that if students are certain of their major, they will remain in school. There were no statistically significant relationship between study habits, academic advising, absenteeism, outside encouragement, course availability, finances, hours of employment, family responsibilities and opportunity to transfer to another college.

Table 24

RESULTS OF THE STEPWISE MULTIPLE REGRESSION FOR THE TEN INDEPENDENT VARIABLES AND ATTRITION

Factor	R	R^2	Variance	F-Ratio	P
Major Certainty	.124	.015	.012	4.116	.043

Table 25

RESULTS OF THE STEPWISE MULTIPLE REGRESSION FOR THE NINE EXCLUDED INDEPENDENT VARIABLES

Model	Beta In	t	Sig.	Partial Correlation.	Collinearity Statistics Tolerance
Study Habits	.082	1.348	.179	.083	.998
A. Advising	-.088	-1.433	.153	-.088	.987
Course Availability	-.024	-.398	.691	.025	.994
Finances	-.058	-.777	.438	-.048	.667
Outside Encourage.	-.007	-.094	.925	-.006	.615
Family Res.	-.035	.574	.566	-.035	.985
Absenteeism	.047	.764	.445	.047	.995
Op. Transfer	-.022	-358	.721	-.022	1.000

As it relates to the moderator variables in terms of age, ethnicity, marital status and gender, Hypotheses 11, 12, 16, 17, 19, and 20 found statistically significant relationships.

Age, marital status, and ethnicity/race were statistically significant as they relate to study habits. Gender showed a statistical significance as it relates to academic

advising. Marital status was significant in terms of its relationship to finances. Age was statistically significant as it relates to hours of employment. Marital status and age were statistically significant as it relates to family responsibilities. Age and ethnicity were statistically significant as they relate to the opportunity to transfer. There was no significance between the other hypotheses with the moderator variables.

Chapter six reviews the findings from this study, the conclusions, and the implications drawn therefrom. In addition, recommendations relative to the findings are made.

CHAPTER 6

Findings, Conclusions, Implications and Recommendations

Findings

All colleges, whether a two-year community college or a four-year institution are concerned about why students are leaving school prior to graduation. Current research show that many community colleges have done research studies in an effort to determine why students are leaving school.

As we move toward the final decades of the twentieth century and observe institutions of higher education, we find that the student population is more diverse. The population consists more of the nontraditional student. Chapter 1 described some of the characteristics of the nontraditional student i.e., age, enrollment status, financial independence or employment status, and defined attrition.

A review of the related literature showed that there are many studies in the area of traditional student attrition, however, student attrition for the nontraditional student has received little attention. Therefore, the goal of this research investigation was to explore the factors that affect the retention rate of nontraditional students in Georgia Perimeter Community College using the conceptual model developed by Bean and Metzner (1985) illustrated in Figure 1. In their model, a nontraditional student was older than 24, or did not live in a campus residence (e.g., is a commuter), or was a part-time student, or some combination of these factors. In contrast, in this study, only 44 percent of the students

were over age 24, all of the students in this study had withdrawn from college, and over 50 percent of the students were enrolled part-time. In Bean and Metzner's model, the sample consisted of 625 part-time freshmen students during their first semester. In this study, the sample consisted of 307 students who had withdrawn from school after one year. Also, in Bean and Metzner's model, 26 variables were used; this study used ten variables.

This study used 20 hypotheses generated and tested using Pearson r and step-wise multiple regression, and the results of these tests were analyzed in Chapter 5. Hypotheses 4, 11, 12, 16, 17, 19 and 20 were significant. The remaining hypotheses did not show any significance.

When the academic variables were submitted, one variable of the academic set was significant using the correlation. Students who withdrew from college expressed uncertainty regarding their choice of major. The lack of certainty by those students who withdrew was not consistent with their expressed satisfaction with academic advising. The exploration or selection of an academic major quite often is considered an outgrowth of academic advising. Therefore, the influence of the academic set of variables identified by Bean and Metzner (1985) was interpreted to be low in the attrition process of the nontraditional student.

When the environmental variables were subject to correlation analysis, the analysis did not produce any significance in classifying students who would withdraw from school. Likewise, the influence of the environmental set of variables identified by Bean and Metzner (1985) was also considered insignificant in the attrition process of the nontraditional student. These findings contrast with those of Bean and Metzner.

When moderating variables (age, ethnicity, gender and marital status) were included with the set of academic and environmental variables identified by Bean and Metzner (1985) seven hypotheses showed some significance. In Bean and Metzner's model, academic performance and grade-point average were thought to be predictors of dropout behavior. This was not true in this study. Since major certainty was the only significant correlation, it gave no support to Bean and Metzner's (1985) model. When the moderator variables were considered, six hypotheses showed some significance.

Table 26

SIGNIFICANT CORRELATIONS BY HYPOTHESES

Hypotheses	Findings
Ho^{4}	Rejected
Ho^{11}	Rejected for age, ethnicity & marital status
Ho^{12}	Rejected for gender
Ho^{16}	Rejected for marital status
Ho^{17}	Rejected for age
Ho^{19}	Rejected for age and marital status
Ho^{20}	Rejected for age and ethnicity

The additional data gathered in this study provided information that proved to be useful in understanding this population and in developing a profile of the nontraditional student who may withdraw from school. The demographic data relative to the sample studied showed that the majority of the students who withdrew from school were:

1. between 19 and 24 years of age,
2. enrolled in day school,
3. attended part-time and weekends,
4. lived on their own or sole providers,
5. interested in transferring to another school,

6. earned the grade of "b" while attending school,
7. African-American,
8. female (s) and
9. single.

Based on this profile, recommendations are presented to help teachers and administrators become proactive to the needs of this population.

Regressions

The testing of the ten independent variables and attrition identified one predictor when using the step-wise multiple regression. Major certainty was the only predictor in the model because of its significant contribution to the variance that occurred.

Conclusions

Based on the significant findings in this research, the researcher can draw several meaningful conclusions. The first conclusion focuses on Hypothesis 4, major certainty. It is clear from this research investigation that major certainty was significant in this study. The academic variable exercised a stronger effect in the statistical analysis than did the environmental set of variables. Nontraditional students appeared to be unclear or undecided about their career goals, and therefore withdrew from school because they were not specific about their career interests. It would seem that if students were unsure about their major concentration, it would attribute to their withdrawal from school. On the other hand, if students have a specific goal and direction, they will remain in school. It would appear that if a student loses interest in their program major or is not committed or sure about their selection of major, they would withdraw from school.

When moderator variables (age, ethnicity, marital status and gender) were added to the equation of the relationship between the ten independent variables and attrition, the outcomes were slightly different for Hypotheses 11, 12, 16, 17, 19 and 20.

In Hypothesis 11, age, marital status and ethnicity/race were significant in the relationship between study habits and attrition of the nontraditional student in terms of age, ethnicity and marital status. From this study, it is evident that age, ethnicity and marital status influenced the study habits of the nontraditional student. It seems that the younger students spent more time studying than the older students did. As it relates to ethnicity/race in terms of study habits and the data in this study, it is important to note that the demographic data reveal that more than 50 percent of the sample were African-American. Since the ethnicity of the sample was greatly influenced by African-Americans, it influenced these findings. As it relates to marital status and study habits, it appears that students who were married were more likely to spend more time studying than the single or divorced student.

Also, in Hypothesis 12, gender showed a statistical significance as it relates to academic advising. It suggests that male students are more likely to seek academic advising than female students.

Hypothesis 16, there is no significant relationship between finances and attrition of the nontraditional student in terms of (a) age, (b) ethnicity, (c) gender and (d) marital status, marital status, was significant. Since an inverse relationship exists with marital status and finances, it indicates that married students' finances were likely to be better than the finances of a single or divorced student. In Hypothesis 17, age was significant as it related to hours of employment. It appears that the older students worked more hours

than the younger students, which may affect their ability to remain in school. In Hypothesis 19, marital status and age were statistically significant as it related to family responsibilities. It suggests that the single students had more responsibilities than the married students. Age had an inverse relationship in this hypothesis which means that the younger students had more responsibilities than the older students. In Hypothesis 20, age and ethnicity were significant as it related to the opportunity to transfer. It would seem that the younger Caucasian and Hispanic students were more likely to have the opportunity to transfer to another college than the older, African-American student. It is important to note that the generalization of results may be limited by the low sample response rate.

Implications

This research studied the factors that affect the attrition of nontraditional students in Georgia Perimeter Community College using the conceptual model developed by Bean and Metzner in 1985. Indicators in this study were study habits, academic advising, absenteeism, major certainty, course availability, finances, hours of employment, outside encouragement, family responsibilities and opportunity to transfer. The conclusions drawn from this research study allowed the researcher to reach some implications. These implications are centered on the investigation of the factors that affect the attrition rate of the nontraditional student in Georgia Perimeter Community College.

As noted in the study, the analysis revealed that major certainty, an academic factor, had a significant impact in the process of attrition. With regard to major certainty, students are unaware that their indecisiveness or uncertainty of a program of study may

interfere with them graduating from school. Most of them expressed their uncertainty regarding their program of study in their questionnaire, and this probably explains why they withdrew from school. The implication may be that students who persisted in school most often had clear and concise goals regarding their career interests, while those students who withdrew did not have specific career goals. Also, they could have had a career goal, but their major might not have been what they thought it to be in preparing for that career. For example, a student who has completed an Arts degree can be accepted into medical school. The goal might always have been medical school, but the choice was made to do an Arts program. This uncertainty students have regarding their program of study needs to be addressed so that more students can complete their program of study and graduate from school.

Next, study habits had some influence when the moderating variables were included (Hypothesis 11). Age, ethnicity and marital status were significant. Because of the findings in Hypotheses 11 and 17, it may imply that work was a priority for the older student. It may be that the older student was already employed in an area of interest and was simply obtaining additional training. It may be that the older student had to work full-time because of other financial obligations.

Concerning the environmental variable, finances, there was some influence when the moderating variables were included. It may imply that married students managed their finances better than the single or divorced student. Also, it may imply that married couples had more resources available to manipulate.

Hours of employment, an environmental factor, showed significance when the moderating variables were included. Age was significant in hours of employment. It

may be that these students were working more hours than they should while attending school. The implication may be that the stress from working and attending school is too great for students to proceed, therefore, they leave school. Another implication may be that many of these students are totally responsible for themselves. As mentioned earlier, priority for the older student may be work instead of school because of their financial obligations. The implication may be that older students are more patient and relaxed in reaching their career goal and, thereby, do not let school interfere with their ability to work.

Family responsibilities showed significance for age and marital status. It suggests that the younger students had more family responsibilities, such as their children, their parents and other siblings, than the older student. It may be that the younger students were single and heads of households. It may also imply that older students' children, if they had any, have already left home. It might also tend to identify that the nontraditional student population who became a parent at an early age attended this type of school. Since the demographic statistics clearly identify this type of population, efforts should be made to address their concerns in a proactive manner in an effort to retain them in school.

The final area for consideration is implications derived from the findings about the opportunity to transfer, which was another environmental variable with significance when the moderating variables were included. In this study, the correlation showed that the age and ethnicity influenced the student's ability to transfer to another college. It suggests that the older student had less chance of transferring to another college once they completed their studies at a two-year school. It suggests that if the student is an African-American, it is unlikely that they will have an opportunity to transfer to another

college. It may be that the older student is not interested in transferring to another school. It could also be that their grade average is not high enough to be accepted into another school or that their SAT or ACT scores are not high enough. It may be that the African-American student is only concerned about completing the two-year program and does not earn the grades high enough to pursue or attend another college. It may also be that ACT or SAT scores were not competitive enough to be accepted at another school. It may be that the African-American student does not have the finances needed to attend another school. However, it is important that teachers and administrators at two-year schools attempt to inform all students of the process and requirements needed to transfer to another school.

From this study, the author has learned the value of assisting students initially in determining their career choice, thereby increasing the retention rate of a college or retaining students in a proactive manner instead of a reactive approach. This study helps one to realize the importance teachers and counselors play in guiding nontraditional students with establishing specific goals and working toward a realistic outcome despite the fact they are adults.

Recommendations

Based on the findings in this research study, the following recommendations are offered.

1. The findings suggest that nontraditional students could benefit from increased services designed to help them clarify their education and career goals. In particular, since major certainty was a factor, an examination of a career

assessment process is indicated. An intense orientation program regarding career choice could be utilized, and if it exists, could be better advertised.

2. The findings suggest that the nontraditional student could benefit from the implementation of a policy requiring all students at two-year colleges to participate in a pre-assessment test. This test would assist students with determining their strengths, weaknesses and interests and, thereby, guide them in selecting their major program of study.
3. Based on the findings in this study, it is recommended that all students be assigned an academic advisor to assist them in determining their major study and course selections prior to registering for classes and to inform them of their transfer options.
4. It is also recommended that seminars be offered at the beginning of each semester or quarter on topics including Strategies for Developing Effective Study Habits and Personal Financial Management and Balancing School, Work and Family.
5. The findings suggest that the nontraditional student could benefit from the implementation of a policy requiring all students to participate in an exit interview prior to withdrawing from school. This process would give the interviewer an opportunity to discuss with the students their reasons for leaving school, to assist them in resolving their problems, and to obtain information that may assist administration in determining reasons why students leave school. It may be that some of the reasons could be resolved administratively, thereby preventing other students from leaving school. If the student leaves without completing this exit

interviewing process, transcripts or grade reports will not be sent to another school until this interview is completed.

6. Since an academic major is often associated with academic advising and because the findings in this study did not show a correlation, the nontraditional student could benefit from an investigation of the interactive effect between major certainty and academic advising. It would seem that one would affect the other, but in this study that is not the case.
7. Based upon the demographic profile of the population, the nontraditional student could benefit if classes were scheduled between 8:30 a.m. and 2:30 p.m. to offset any scheduling problems that may arise with having children in school or daycare.
8. Future research may be done by including other variables that may be derived from the exit interviewing process recommended in this study.

Summary

The highlights of this chapter centered on the conclusions, implications and recommendations developed from the findings of this research exercise. This quantitative study attempted to determine the variables that affected the attrition of nontraditional students in Georgia Perimeter Community College using the academic and environmental variables illustrated in the Bean and Metzner (1985) model. The results indicated that major certainty was a significant variable in the attrition process for nontraditional students. Other variables were significant when the moderator variables were considered. The environmental and academic variables did not greatly influence the

process of attrition for the nontraditional student in this study. Several implications were also derived from this investigation.

Thus, the researcher recommended that services be designed to help students clarify their education and career goals. It was also recommended that a policy requiring all students at two-year colleges participate in a pre-assessment test and in an exit interview process. It was recommended that all students be assigned an advisor. Additionally, it was recommended that seminars be offered at the beginning of each semester on pertinent topics. It was also recommended that an investigation be made regarding the correlation between major certainty and academic advising. It was recommended that classes be scheduled between 8:30 a.m. and 2:30 p.m.

The study offered insight into the characteristics of the nontraditional population, as shown in the findings, and offered explanations for nontraditional student attrition at Georgia Perimeter Community College. The understanding of the process should prove useful as the number of these students increase at institutions at all levels. The success of these nontraditional students is a goal to be desired by both the students themselves and the institutions in which they enroll. With a greater awareness by the institutions of the roles that they must egress from and evolve to, in creating a more accommodating environment for the nontraditional student, this goal may be accomplished.

APPENDIX A

December 11, 1998

Dr. Ed Hale
Director of Planning
DeKalb Perimeter College
3251 Panthersville Road
Decatur, GA 30034

RE: Validation of Instrument

Dear Dr. Hale:

Ms. Debra Gordon's survey instrument for her study is an acceptable instrument that may be used in her study.

Thank you for supporting Ms. Gordon in her endeavor to complete her doctoral requirements for graduation at Clark-Atlanta University.

Sincerely,

Dr. Claudette Williams, Professor
Clark-Atlanta University

APPENDIX B

January 1, 1999

Dear Student:

Happy New Year! You are missed at Georgia Perimeter College! Apparently, you have chosen to discontinue your educational program at our college. Your personal reasons for leaving the college is important to us so we may better understand your departure; and if necessary, we may need to make some adjustments at our college to better serve your needs.

Please help Georgia Perimeter College better serve its students by taking a few minutes to complete the enclosed questionnaire and return it to me immediately in the self-addressed envelope. By answering all the questions on the questionnaire and returning it to me by January 15, 1999, your will be eligible to participate in three $50 drawings. If you win, your $50 will be mailed to the address indicated on the questionnaire.

Your assistance is greatly appreciated! If you wish to contact me, I can be reached at (404) 297-9522, ext. 1187 from 8 a.m. until 4 p.m.

Sincerely,

Debra B. Gordon

Enclosure: Questionnaire
Self-addressed envelope

APPENDIX B

Educational Research Project

Educational Research Project

February 26, 1999

Ms. Olivia Orza
1912 Harbor Lane
Roswell, GA 30076

Dear Ms. Orza:

RE: Survey for Educational Research Project

Georgia Perimeter College and Clark-Atlanta University have approved this doctoral research project in which you are invited to participate. Enclosed is a survey regarding some of the variables that cause some students to withdraw from college. The survey can likely be completed in five minutes.

You are assured that your participation in this survey and your responses will be treated in a confidential and professional manner. Your identity is encrypted into a code number on the survey only for the purpose of follow-up for survey forms not returned. The survey data will be compiled into group data for statistical analyses, and then all survey forms will be destroyed.

This study involves only the student who withdrew from Georgia Perimeter in 1993-94, 1994-95 and 1995-96 school terms. Your response is very important.

Please assist me by providing a response within the next ten days. You are invited to telephone me at (404) 297-9522, ext. 1187 (DeKalb Technical Institute), if you have any questions or comments regarding this study. Thank you for your participation in this survey.

Sincerely,

Debra B. Gordon, Researcher

Enclosure: Survey
Return envelope with postage

Educational Research Project

March 12, 1999

Ms. Andrea Voylels
490 Lockridge L.
Lawrenceville, GA 30045

Dear Ms. Voylels:

RE: Survey for Educational Research Project

Georgia Perimeter College and Clark-Atlanta University have approved this doctoral research project in which you are invited to participate. Enclosed is a survey regarding some of the variables that cause some students to withdraw from college. The survey can likely be completed in five minutes.

You are assured that your participation in this survey and your responses will be treated in a confidential and professional manner. Your identity is encrypted into a code number on the survey only for the purpose of follow-up for survey forms not returned. The survey data will be compiled into group data for statistical analyses, and then all survey forms will be destroyed.

This study involves only the students who withdrew from Georgia Perimeter in 1993-94, 1994-95 and 1995-96 school terms. Your response is very important.

Please assist me by providing a response within the next ten days. You are invited to telephone me at (404) 297-9522, ext. 1187 (DeKalb Technical Institute), if you have any questions or comments regarding this study. Thank you for your participation in this survey.

Sincerely,

Debra B. Gordon, Researcher

Enclosure: Survey
Return envelope with postage

APPENDIX C

Student Survey

Please answer all questions by circling the response that corresponds to the answer that best represents your opinion.

Please return the questionnaire in the stamped envelope enclosed to: D. Gordon, 495 N. Indian Creek Clarkston, GA 30021.

SECTION I.

1. Age:

   a. 18 and under
   b. 19 to 24
   c. 25 to 34
   d. 35 to 44
   e. 45 and over

2. Enrollment Status:

   a. Day
   b. Evening
   c. Weekend

3. Class Load:

   a. Full-time
   b. Part-time

4. Residence:

   a. Own house
   b. Parent's home
   c. Rent room or apartment
   d. Other. Please specify:_____

5. Educational Goals:

   a. Associate degree
   b. Vocational/technical program
   c. Transfer to another institution
   d. Certification (initial or renewal)
   e. Self-improvement/pleasure
   f. Job-related training
   g. Other. Please specify:_____

6. What was your overall high school grade point average the last year of high school?

   a. 3.50 – 4.00
   b. 3.00 – 3.49

c. 2.50 – 2.99
d. 2.00 – 2.49
e. 1.50 – 1.99

7. Ethnicity/Race:

a. African-American
b. American Indian or Alaskan Native
c. Asian or Pacific Islander
d. Caucasian/White
e. Hispanic
f. Other. Please specify:_____

8. Gender:

a. Female
b. Male

9. While you were in school, were you:

a. Married
b. Divorced
c. Single (living alone)
d. Co-habitating with significant other
e. Other. Please specify:_____

SECTION II

10. What is the average amount of time you spend studying per week? ___Number of hours?

a. 1 - 2
b. 2 - 3
c. 3 - 4
d. 4 - 5
e. 5 and more

State the extent to which you agree or disagree with each of the following statements by circling the letter which best represents your answer. Select only ONE response per question.

11. The academic advising system offered by this college met my needs.

a. Strongly disagree
b. Disagree
c. Agree
d. Strongly agree

12. My academic advisor provided me with accurate information about requirements, or prerequisites for classes.

a. Strongly disagree
b. Disagree
c. Agree
d. Strongly agree

13. My advisor helped me to identify the obstacles that would hinder my educational goals.

a. Strongly disagree
b. Disagree
c. Agree
d. Strongly agree

14. My advisor was helpful.

a. Strongly disagree
b. Disagree
c. Agree
d. Strongly agree

15. My advisor was someone whom I would recommend to other students.

a. Strongly disagree
b. Disagree
c. Agree
d. Strongly agree

16. Courses I wanted were available to take at times I could take them.

a. Strongly disagree
b. Disagree
c. Agree
d. Strongly agree

17. This college offered sufficient alternative to classroom instructions (e.g. Credit by examination)?

a. Strongly disagree
b. Disagree
c. Agree
d. Strongly agree

18. My spouse or significant other approved of my going to college.

a. Strongly disagree
b. Disagree

c. Agree
d. Strongly agree

19. My employer approved of my going to college.

a. Strongly disagree
b. Disagree
c. Agree
d. Strongly agree

20. If I were able to complete my schooling, my education would be useful for obtaining future employment.

a. Strongly disagree
b. Disagree
c. Agree
d. Strongly agree

21. My education would be useful in obtaining a really good job.

a. Strongly disagree
b. Disagree
c. Agree
d. Strongly agree

22. In a typical week, how many class sessions would you miss without a medical or legitimate excuse?

a. None
b. About one
c. About two
d. About three

23. How certain were you about your educational plans at this time?

a. Very uncertain
b. Somewhat uncertain
c. Somewhat certain
d. Very certain

24. How certain were you of what you were going to major in?

a. Very uncertain
b. Somewhat uncertain
c. Somewhat certain
d. Very certain

25. How certain were you about your career plans at that time?

a. Very uncertain
b. Somewhat uncertain
c. Somewhat certain
d. Very certain

26. How certain were you that you would be able to find funds to continue your education the next year?

a. Very uncertain
b. Somewhat uncertain
c. Somewhat certain
d. Very certain

27. What was your family annual gross income, while you were in school?

a. Less than $11,999
b. $12,000 to 23,999
c. $24,000 to $35,999
d. $36,000 to $47,999
e. Over $48,000

28. Would your employer have reimbursed you for tuition if you completed your course (s) with a passing grade?

a. No, my employer would not.
b. Yes, my employer would reimburse part of my tuition
c. Yes, my employer would reimburse all of my tuition.

29. While attending school, I was employed:

a. Full-time off campus
b. Part-time off campus
c. Full-time on campus
d. Part-time on campus
e. Not employed

30. While attending school, indicate the number of dependent children, relatives or others living with you for whom you were responsible?

a. 1 – 2
b. 3 – 5
c. 6 – 8
d. Not applicable

31. While attending school, was reliable day care available to you?

a. Unavailable
b. Somewhat unavailable
c. Does not apply

d. Somewhat available
e. Available
f. Not applicable

32. If you did not expect to receive a degree, which of the following best describes your educational goals?

a. To take only one course
b. To take a few courses for self-improvement or personal satisfaction
c. To take a few job-related or job-required courses
d. To take courses necessary to transfer to another college.

33. What was the likelihood that you would complete your educational goals at this institution?

a. It is unlikely I would complete my educational goals
b. It is likely I would complete my educational goals at this institution.
c. I am unsure whether I would complete my educational goals.

34. How difficult did you think it would be to leave this college and transfer to another university, college or junior college?

a. Very difficult
b. Fairly difficult
c. Not sure
d. Fairly easy
e. Very easy

APPENDIX D

SURVEY QUESTIONS NUMBER RESPONSE TO VARIABLES

Independent Variables	Question #
Study Habits	10, 32
Academic Advising	11, 12, 13, 14, 15
Absenteeism	22
Major Certainty	23, 24, 25
Course Availability	16, 17
Lack of Finance	26, 27
Hours of Employment	29
Outside Encouragement	18, 19, 28
Family Responsibilities	30, 31
Opportunity to Transfer	34
Moderator Variables	
Age	1
Marital Status	9
Gender	8
Ethnicity	7
Demographic Variables	
Enrollment Status	2, 3,
Residence	4
Educational Goals	5, 20, 21, 33
High School Performance	6
*Ethnicity	7
*Gender	8
*Age	1

*Indicates that the variable is found more than once.

APPENDIX E

February 12, 1999

C. Fitts
1267 Treo Avon Way
Lilburn, GA 30047

Dear C. Fitts:

Congratulations! Enclosed is your money order for $50! Your name was selected from the drawing held for the $50 cash gifts.

Thank you for participating in the survey regarding Georgia Perimeter College. Your input will help us improve our educational system.

Sincerely,

Debra B. Gordon

APPENDIX E

February 12, 1999

Whitney Kutula
9575 Kingston Crossing Circle
Alpharetta, GA 30022

Dear Ms. Kutula:

Congratulations! Enclosed is your money order for $50! Your name was selected from the drawing held for the $50 cash gifts.

Thank you for participating in the survey regarding Georgia Perimeter College. Your input will help us improve our educational system.

Sincerely,

Debra B. Gordon

APPENDIX E

February 12, 1999

Sally Lu
500 Durham Ridge Drive
Lilburn, GA 30047

Dear Ms. Lu:

Congratulations! Enclosed is your money order for $50! Your name was selected from the drawing held for the $50 cash gifts.

Thank you for participating in the survey regarding Georgia Perimeter College. Your input will help us improve our educational system.

Sincerely,

Debra B. Gordon

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